SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

DIVISION OF CARDIOVASCULAR HEALTH

Helping South Carolinians Live Healthier, Happier, and Longer Lives

SOUTH CAROLINA CARDIOVASCULAR HEALTH STATE PLAN 2002-2007

MARCH 2003

CONTENTS

EXECUTIVE SUMMARY

Based on the overwhelming toll that Cardiovascular Disease (CVD) and Stroke take on citizens, DHEC, in collaboration with its partners, is ready to implement a concerted action plan to address the challenges of this disease. The SC Cardiovascular Health Comprehensive Program (Division of Cardiovascular Health), implemented in 2001, is committed to establishing goals and objectives that address preventable risk factors for CVD and Stroke and to building partnerships within the state.

Due to the ubiquity of CVD and Stroke risk factors in our society, improving Cardiovascular Health (CVH) will require a population-level approach to ensure a sustainable, lasting change in this disease pattern in SC. One-on-one approaches alone have proven to be inadequate. The risk factors that contribute to CVD and Stroke are too varied and complex for informational and educational strategies alone. Comprehensive community-based policy level interventions along with information and educational strategies are needed to effect broad-based change. By using a comprehensive approach that targets multiple sectors with various strategies, improvement can be made in the reduction of this disease and its related risk factors.

This plan presents a systematic statewide design that addresses primary and secondary prevention of CVD and Stroke using multi-level, socio-ecological strategies. Sites for primary intervention correspond to “organizational” and “community” levels such as schools, worksites, or faith communities. Secondary prevention focuses on the health care system to ensure that screening, detection, and follow-up includes appropriate and standardized management of clinical risk factors for CVD and stroke and to ensure that they are in place, available, and accessible to all South Carolinians, with emphasis on our priority populations—African-Americans, indigent and underserved, and rural.

While continuing to strengthen core capacity, this comprehensive statewide plan focusing on promoting policy and environmental change in the areas of physical inactivity, poor nutrition, tobacco use, hypertension, and high cholesterol will be implemented. With this focus, we expect to see improved CVH for the citizens of South Carolina.

INTRODUCTION

We are at a juncture to positively affect change in the cardiovascular heart disease and stroke rates in the State of South Carolina. In 1998, the Division of Cardiovascular Health received core funding from the Centers for Disease Control and Prevention to establish infrastructure to address cardiovascular disease. Subsequently, beginning in October of 2001, this program was elevated to the comprehensive funding level to implement positive policy and environmental changes for heart health.

The mission of the Cardiovascular Health State Plan is to work with community partners and programs to improve cardiovascular health and quality of life through:

1) the prevention, detection, and treatment of risk factors;
2) early identification and treatment of cardiovascular diseases; and
3) prevention of recurrent cardiovascular events.

The Past

How we go about creating healthier communities in years to come will be very different from how it was provided in the industrialization period of nineteenth-century and early twentieth-century Canada and the United States.

The Present

We have now seen that change can occur from a broader base if we work from a more coordinated approach. Non-traditional partnerships have been forged which help to reduce duplication of services and enhance service provision by utilizing the strengths of each partner. These collaborations continue to be effective because they are based on major determinates of health that are to be found in environment, social, economic, political, and cultural conditions—and the behaviors they shape—rather than in the provision of health care.

Evidently, policy and environmental change strategies are considered more effective due to the impact on population health, cost effectiveness and sustainability. Policies relating to urban planning, transportation, housing, community and social services, parks and recreation, education, policing, public works, access to care, reimbursement for preventive services, and other areas play a significant role in shaping the health and well-being of the residents of the community. However, we cannot be led to believe that simply because funding is available and policies are changing that these changes automatically translate into a heart healthy community. One of the key factors in this success will continuously be "rooted in health promotion and primary prevention, which can be defined as the process of enabling people to increase control over and improve their own health." People who are utilizing community-level interventions have to be centrally involved and actively participating by being "at the table" from the beginning of any process that will affect their community.

The Future

We are encouraged about the future of a heart healthy South Carolina. This State Cardiovascular Health Plan outlines specific guiding principles that provide the context within which we will move toward our goals of positive change for heart health. These principles are:

1) cultural competence;
2) collaboration and partnerships;
3) use of scientific evidence; and
4) strategies that meet diverse needs.

We are committed to reducing the rates of cardiovascular disease and stroke by continuing to work "smarter and not harder" and by developing partnerships that can serve to affect change from a policy and environmental level. We are committed to identifying effective strategies and activities that meet the needs of our communities in promoting better cardiovascular health.

Development of the Plan

The South Carolina Department of Health and Environmental Control (DHEC) is the state public health agency, and in this role, is charged with protecting the health and environment of its citizens. Because of the pervasive nature of CVD, developing programs to combat this chronic disease involves an enormous cost in resources and staffing. Effective partnerships have been developed to address CVD in South Carolina. It is necessary to develop strategies to focus on those approaches that will result in sustainable and cost effective change in health behavior.

With funding from the Centers for Disease Control and Prevention (CDC), DHEC initiated the South Carolina Cardiovascular Health Program (SC CVH), to coordinate the state's response to CVD. Because the development of programs influencing individual behavior were expensive, time-consuming, and mostly ineffective, efforts have been redirected from the individual to policy and environmental change initiatives, which are designed to promote optimal conditions for behavior change on a more comprehensive level. These initiatives are intended to increase screenings for CVD and CVD risk factors and assure entry into the healthcare system in order to prevent cardiovascular events like heart attack and stroke. This more expansive focus required the mobilization of substantial resources, the development of a comprehensive strategy, and the enactment of a common mission and vision, all through partner collaboration.

In creating partnerships, SCCVH initially involved the different program areas within DHEC, including those areas that were not only disease-specific, but also those programs which deal with special populations, data and the community, as well as the agency's health districts which act as liaisons to the community. The coordination and cooperation of these areas were key in strategic planning and program development. The input received from this internal partnership formed the basis for the infrastructure needed for the statewide effort.

In addition to the internal partnerships, it was necessary to seek the involvement of a major stakeholder to help spearhead the effort. This was accomplished through the existing, long-term partnership with the American Heart Association-SC Council (AHA). The AHA shares a similar strategy for health improvement, mobilizing resources in the local community and state to prevent and reduce heart disease and stroke. DHEC had initiated this same focus through the realization that there is a relationship between health problems, the individual, the community, and the healthcare system. By building local capacity, people would develop a sense of responsibility and ownership of health problems within their community, thereby promoting "local solutions to local problems." In addition, large-scale behavior change requires local input in defining the problem and directing the effort towards policy and environmental change.

From the partnership with AHA, other internal and external partners were identified and recruited to

participate on the CVH Steering Committee. The Committee expanded the collaborative effort to include other state agencies, government, business, health care, professional organizations, academia, insurers, the media, special populations, and community-based groups. This was necessary not only to direct a coordinated response to the CVD problem within the state, but to develop this cardiovascular health plan for South Carolina—a blueprint for directing CVH efforts in the state. By engaging partners in the development of the CVH State Plan, it was assured that this statewide effort was going to be coordinated not only horizontally among the stakeholders, but vertically between the state entities and the local community. The plan would thus become the focus for prevention efforts within the state and outline the strategies for reaching priority populations and special groups disproportionately affected by CVD.

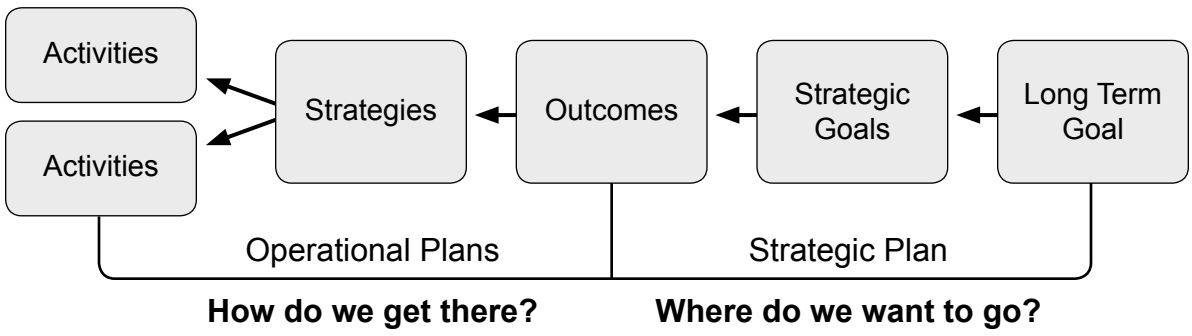
The development of specific goals, strategies, and activities within the CVH State Plan was provided by input from the CVH Structure Subcommittee. This involved the development of the broad goals and objectives, which centered on establishing a healthy environment for promoting positive health behavior, early detection of risk factors for CVD, and early treatment of CVD for all South Carolinians. The Structure Subcommittee in turn created various ad hoc subcommittees to work on the content, including the components of assets development, data/risk factors, environment/health disparities, health communication, and legislative policy. These work groups also contributed strategies and activities for achieving the overall goals and objectives.

The Steering Committee guided the process of the development of the state plan as it evolved, which served to strengthen the committee's capacity, ownership, and subsequent buy-in and support for the implementation and evaluation of the plan.

The South Carolina Cardiovascular State Plan sets the direction for the next five years by defining the goals and outcomes to be achieved to improve cardiovascular health and the quality of life. The plan includes those strategies and activities that are expected to lead to the desired outcomes. The plan was developed using an outcomes based planning model. This model has two dimensions: planning and accountability. Planning, using best practice and scientific knowledge, defines the linkages and sequential steps necessary to achieve the goals and desired outcomes. Accountability is effected through the measurement of progress toward outcomes. On-going measurement and evaluation will determine the need for changes in, or additions to, the plan.

The planning process started with the end in mind: the long-term and strategic goals and the desired outcomes. From these goals, the plan identifies strategies and activities necessary to reach the goals. A diagram of the model shows the linkages between the components of the plan (Figure 1).

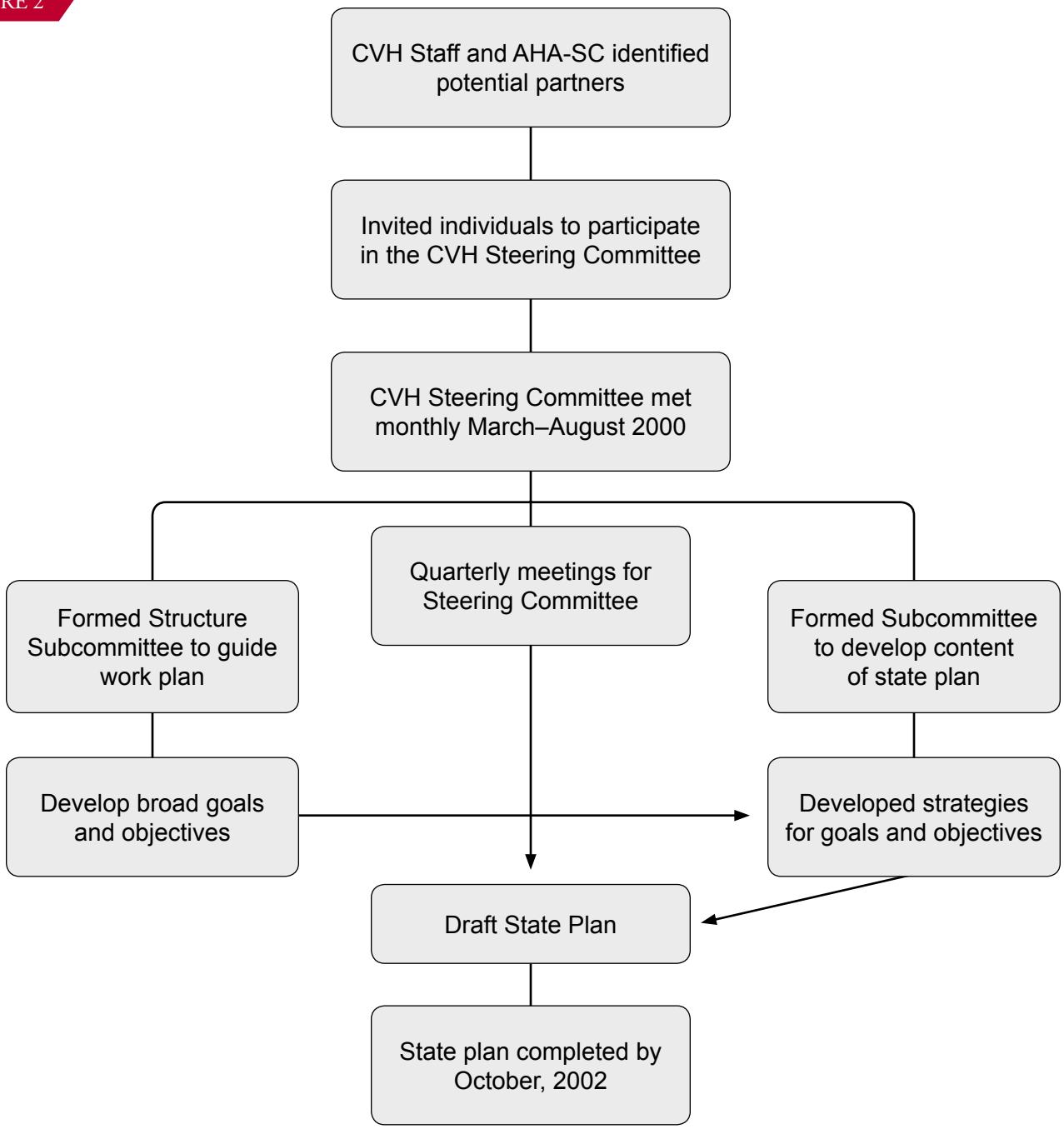
FIGURE 1



The first goal is *Promote healthy behaviors among all South Carolinians in order to prevent or reduce cardiovascular disease*. The activity to form community-walking clubs and educate adults on the impact of physical activity on cardiovascular health is one way to implement the strategy. If more people are physically active, then more people have adopted healthy behaviors. The outcome, to decrease the percentage of adults who are physically inactive, will be achieved.

The plan begins with the mission, a comprehensive statement of the plan's purpose, and the values that guide it. The long-term goals address primary and secondary prevention strategies, early detection of risk factors and disease, early treatment of risk factors and disease, and the early treatment of disease.

FIGURE 2



CARDIOVASCULAR HEALTH WORK PLAN

Mission

The mission of the Cardiovascular Health State Plan is to work with community partners and programs to improve the cardiovascular health and quality of life of South Carolinians through the prevention, detection, and treatment of risk factors; early identification and treatment of cardiovascular diseases; and prevention of recurrent cardiovascular events.

Cultural Competence

We are committed to cultural competence by recognizing, respecting, understanding, accepting and valuing different cultures in order to provide effective services to all South Carolinians.

Collaboration and Partnerships

We are committed to continuing to build collaborations and partnerships that will serve as the foundation for the infrastructure to support the statewide effort.

Use of Scientific Evidence

We are committed to the use of rational methods and the most current scientific evidence to provide answers and to guide professional judgment.

Strategies That Meet Diverse Needs

We are committed to the use of multiple strategies that are appropriately suited to the diverse needs of South Carolinians.

GOAL 1 Promote healthy behaviors among all South Carolinians to prevent or reduce cardiovascular diseases with a focus on reducing health disparities.

Objective 1: South Carolinians will adopt healthy behaviors, including being physically active, avoiding tobacco use, and adopting heart-healthy nutritional habits.

Outcome 1: By 2007, the percentage of adults in South Carolina who are inactive will be decreased and the percentage of youth in South Carolina who participate in vigorous activity for at least twenty minutes on three or more of the past seven days will be increased.

Outcome 2: By 2007, the percentage of adults in South Carolina who have been advised by a health care provider to exercise more will be increased.

Outcome 3: By 2007, both the percentage of adults in South Carolina who smoke and the percentage of youth in South Carolina who smoked cigarettes on one or more of the past thirty days will be decreased.

Outcome 4: By 2007, the percentage of adults in South Carolina who have been advised by a health care provider to quit smoking will be increased.

Outcome 5: By 2007, both the percentage of adults in South Carolina who eat five or more fruits and vegetables each day and the percentage of youth in South Carolina who eat five or more fruits and vegetables each day during the past seven days will be increased.

Outcome 6: By 2007, the percentage of adults in South Carolina who have been advised by a health care provider to eat fewer high fat or high cholesterol foods will be increased.

Objective 2: Community environments will support the adoption and maintenance of healthy behaviors.

Outcome 1: Promote the development of community environments, through diverse partnerships, that support heart healthy lifestyles.

Objective 3: Public policies at the state and local level will support the adoption and maintenance of healthy behaviors.

Outcome 1: Promote the development and implementation of public policies that are supportive of heart-healthy lifestyles.

GOAL 2 Promote the early detection of risk factors for cardiovascular disease (high blood pressure, high blood cholesterol, obesity, and diabetes) and the early detection of cardiovascular disease among all South Carolinians with an emphasis on disparate populations.

Objective 1: South Carolinians will recognize the linkage between risk factors and cardiovascular disease.

Outcome 1: By 2007, increase the number of opportunities for youth and adults in South Carolina to learn that high blood pressure, high blood cholesterol, obesity, and diabetes are risk factors for cardiovascular disease.

Objective 2: South Carolinians will obtain appropriate screenings for cardiovascular disease risk factors in accordance with established guidelines.

Outcome 1: By 2007, the percentage of adults in South Carolina who know their blood pressure level, blood cholesterol levels (total cholesterol, HDL, LDL), blood sugar level, and Body Mass Index (BMI) will be increased.

Objective 3: The health care system will assess and counsel individuals in a culturally appropriate manner and make necessary referrals to assure prevention and control of cardiovascular disease and its risk factors.

Outcome 1: By 2007, the percentage of adults in South Carolina who have had their blood pressure checked during the past two years will be increased.

Outcome 2: By 2007, the percentage of adults in South Carolina who have had their blood cholesterol checked will be increased.

Outcome 3: By 2007, the percentage of adults in South Carolina who have been appropriately screened for obesity will be increased.

Outcome 4: By 2007, the percentage of high school students in South Carolina who has been appropriately screened for obesity will be increased.

Objective 4: Communities will facilitate opportunities to increase screening, awareness, and control of cardiovascular disease and its risk factors.

Outcome 1: Support and promote opportunities for screening, awareness, and control of cardiovascular disease and its risk factors.

Objective 5: Public policies will encourage an increase in screening, awareness, and detection of cardiovascular disease and its risk factors.

Outcome 1: Support and promote public policies that are supportive of screening, awareness, and control of cardiovascular disease and its risk factors.

GOAL 3 Promote early and aggressive treatment and control of risk factors for cardiovascular disease (high blood pressure, high blood cholesterol, obesity, and diabetes) among all South Carolinians with a focus on reducing health disparities.

Objective 1: South Carolinians will obtain appropriate treatment for cardiovascular disease risk factors.

Outcome 1: By 2007, the number of adults in South Carolina who have high blood pressure that is under control will be increased.

Outcome 2: By 2007, the number of adults in South Carolina who have high blood cholesterol that is under control will be increased.

Outcome 3: By 2007, both the percentage of adults in South Carolina who are overweight or obese and the percentage of high school students in South Carolina who are overweight or obese will be decreased.

Outcome 4: By 2007, the percentage of adults with cardiovascular disease who demonstrate control of hypertension will be increased.

Objective 2: Health care system will provide means to treat cardiovascular disease risk factors.

Outcome 1: By 2007, the percentages of health care providers promoting the implementation of disease management through Community and Rural Health Centers will be increased.

Outcome 2: By 2007, the percentage of third party payors that reimburse for risk factor reduction efforts will be increased.

Objective 3: Public policies will support early and aggressive treatment of cardiovascular disease risk factors.

Outcome 1: By 2007, the number of public policies that are supportive of early and aggressive treatment of cardiovascular disease risk factors will be increased.

GOAL 4 Promote early and aggressive treatment of cardiovascular disease among all South Carolinians with a focus on addressing disparate populations.

Objective 1: South Carolinians will recognize the signs and symptoms of cardiovascular disease and seek treatment.

Outcome 1: By 2007, the percentage of adults in South Carolina who are aware of the early warning symptoms and signs of heart attack and stroke will be increased.

Outcome 2: By 2007, the percentage of adults in South Carolina who are aware of the importance of accessing rapid emergency care for heart attack and stroke by calling 911 will be increased.

Objective 2: South Carolinians will actively and cooperatively participate in disease management.

Outcome 1: By 2007, the percentage of South Carolinians who participate in managing their disease will be increased.

Objective 3: Health care system will provide the opportunity for quality care based on current scientific evidence to achieve the desired cardiovascular health outcome for South Carolinians.

Outcome 1: By 2007, increase the number of providers who follow evidence-based, credible established guidelines for cardiovascular health.

Outcome 2: By 2007, support and build the capacity of providers who utilize established disease care models.

Outcome 3: By 2007, increase and assure the number and quality of emergency response services are accessible throughout South Carolina particularly in rural and underserved areas.

Objective 4: Communities will work in partnership to address opportunities for quality health care outcomes.

Outcome 1: By 2007, build supportive environments for the appropriate promotion of heart health and management of CVD.

Objective 5: Public policies will support provision of and access to early and aggressive treatment of cardiovascular disease.

Outcome 1: By 2007, the number of public policies that support the provision of and access to early and aggressive treatment of cardiovascular disease will be increased.

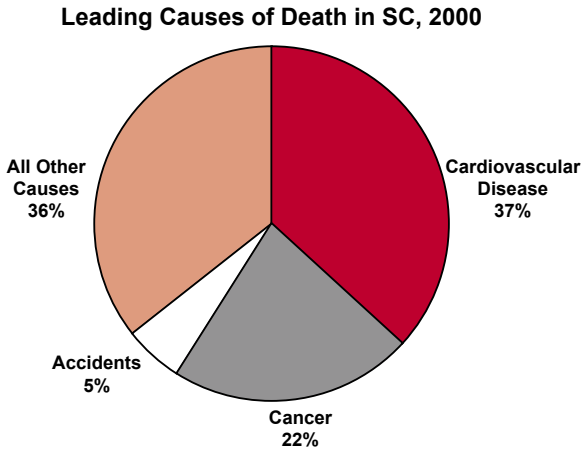
Objective 6: Hospitalizations and deaths due to cardiovascular disease among at risk minority populations will be reduced.

Outcome 1: By 2007, the opportunity for at-risk minorities targeted for educational efforts will be increased to reduce the health disparate gap for health outcomes related to heart attacks and stroke.

Contributing Partners in the development, marketing and implementation of the State Plan:

- DHEC Division of Cardiovascular Health
- American Heart Association
- Governor's Council on Physical Fitness
- SC Coalition for Promoting Physical Activity
- SC Alliance For Health, Physical Education, Recreation, and Dance (SCAHPERD)
- DHEC Bureau of Chronic Disease Prevention and Health Promotion
- USC Prevention Research Center
- DHEC Health Districts
- SC Healthy Schools
- Healthy Schools/Healthy South Carolina Network
- SC Tobacco Control Program
- SC Tobacco Collaborative
- SC African-American Tobacco Control Network
- SC Department of Alcohol and Other Drug Abuse Services
- USC School of Public Health
- SC Nutrition Council
- DHEC Office of Public Health Nutrition
- SC Dietetic Association
- SC Restaurant Association
- Clemson Extension
- Councils on Aging
- Carolina Medical Review
- SC Primary Health Care Association
- SC Medical Association
- SC State Department of Education
- Office of School Food Services and Nutrition
- SC Hypertension Initiative
- SC Stroke Task Force
- DHEC Diabetes Control Program
- Diabetes Initiative of SC
- SC State Office of Rural Health
- American Red Cross
- EMS
- 911 Association
- ER Association
- SC Vocational Rehabilitation Department
- SC Cardiopulmonary Rehabilitation Association
- State Association for ER Physicians.
- SC Hospital Association
- BCBS of South Carolina

Introduction and Background



Cardiovascular disease (CVD) is the leading cause of death and disability in South Carolina. In 2000, CVD accounted for almost 40 percent of all South Carolina deaths. Although known as a primary cause of death in older adults, it is the leading cause of death of South Carolinians aged 25-44 years and one of the top five causes of death in children and young adults. The primary components of CVD are diseases of the heart and cerebrovascular disease (stroke). Together, these components accounted for over 90 percent of all CVD deaths. In 1999, South Carolina ranked fifth in the nation for stroke deaths, third in overall CVD deaths, and seventh in ischemic heart disease deaths. Because of this, South Carolina, along with North Carolina and Georgia, is prominently known as the "stroke belt." Additionally, high stroke death rates in the Pee Dee and Coastal regions of South Carolina have earned this area the dubious distinction as the "stroke buckle" of the "stroke belt." The economic costs of CVD are staggering. In 1999, the cost of CVD in South Carolina was almost $1.4 billion in direct costs (hospital charges).

While CVD is the leading cause of death within each race and sex, African Americans bear a disproportionate burden. Constituting over 30 percent of South Carolina's population, compared with 13 percent nationally, African Americans have substantially higher age-adjusted death rates than the white population, approaching 1½ to 2 times for the primary components of CVD deaths. Comparisons with the national average indicate that these higher rates contribute ten years of life lost for every African American in the state, and a stroke death rate that is 50 percent higher. This confirms not only that stroke kills African Americans in greater proportion than whites, but also at a younger age than any other race or ethnic group.

The major risk factors for CVD are high blood pressure, high blood cholesterol, obesity, and diabetes (high blood sugar). All these risk factors, to a large degree, are preventable, making CVD the leading preventable cause of death. Because of this, most of the national Healthy People 2010 objectives and, consequently, most of the goals within this plan, are focused on promoting healthy behaviors among all South Carolinians. This not only means the development of programs to counter the major risk factors (such as moderate exercise, healthy diet and smoking cessation), but an emphasis on early detection and treatment of CVD symptoms. Such a two-pronged approach requires a significant investment in developing and delivering a wide variety of prevention programs statewide, and targeted to include specific populations at highest risk.

Geographic Distribution

A review of county death rates for CVD indicate that the Pee Dee region of South Carolina (the northeastern portion of the state) is the epicenter for heart disease and stroke death within the state. The people in this "stroke buckle" also suffer from high levels of poverty and are a largely rural population and predominantly African-American. Hospitalization rates for ischemic heart disease are highest in Marion and Dillon Counties, both located in the Pee Dee region, and in Lancaster and Kershaw Counties, both

of which border the Pee Dee region. Additionally, hospitalization for stroke is highest in Florence, Georgetown, and Marion Counties, all located in the Pee Dee region, and in predominantly rural Union County in the Upstate region. Wide variation of heart disease and stroke death rates exist from county to county. As expected, the highest death rates occur in the more rural counties.

Health Disparities

Clearly, the data on risk factor and mortality indicate that African-Americans bear the greatest burden from CVD. This can be attributable to higher poverty levels, lower educational attainment, and less access to medical care. African-Americans are more likely to live in the state's rural areas and not practice healthy behaviors. Some of this can be traced to culture and values, which makes intervention more difficult. Changing the propensity towards certain foods or a particular diet is very difficult, especially if the food in question is associated with a specific event or special occasion. Still, transforming an essentially unhealthy diet to a healthier one requires constant vigilance and reinforcement as well as environmental supports to sustain any change in habit.

Mainstream health education programs, even though targeted to a specific population, don't always work. Efforts in primary and secondary prevention may be needed to reach the population in question and additional efforts must be made to effectuate the positive change in behavior. For the African-American community, an emphasis on community involvement and participation in local activities is usually required to reach people.
This can entail soliciting sponsorship by the neighborhood or school, and involving local leaders in the activities. Another venue for sustaining risk-reducing change is enlisting the involvement of the church. The African-American community revolves around the church, especially in rural areas, where there might be only one church serving the area. Conducting the health intervention at the church leads to greater participation and, therefore, a greater degree of success. There must be an environment of trust and comfort resulting from familiarity with the surroundings and approval from the church pastor to guarantee the audience that will listen to and participate in any particular preventive health interventions.

Barriers to the Adoption of Healthy Behaviors

As stated previously, there are many reasons why people do not adopt a healthier lifestyle, such as language, culture, social interaction, poverty, values, geography, and access to care. Many proven interventions have been thwarted by one or more of these factors, and even the most successful programs have gone to great lengths to overcome these barriers.

Extensive research reveals that social and economic considerations are major determinants in whether people develop CVD, rather than medical treatments and lifestyle choices. A Canadian study points out that poor conditions lead to poor health, and an unhealthy material environment and unhealthy behaviors combined have direct harmful effects. In addition, the stresses of daily life and lack of supportive environments can exert a negative influence. Of utmost importance in whether an individual stays healthy or becomes ill is income. How income is distributed within a society can determine overall health, rather than the overall wealth that is amassed. The socioeconomic circumstances apparent in early life are especially important on a person's predisposition to good health or illness.

Moreover, people living on low incomes, along with government policies that may limit access to basic needs and resources required for health, contribute to the process of societal exclusion. Individuals with low incomes may not receive regular health screenings or annual checkups from a healthcare provider. Instead, these same people may use the ER for care in extreme situations or not receive any type of health care services.

The SC CVH Program has conducted focus and discussion groups across the state to identify barriers that prevent people from adopting healthy behaviors. These groups provide valuable insight into barriers to participation in physical activity, heart healthy diet, and health messages. A study was conducted by neighborhoods and Family Life at Clemson University to determine barriers in self-management of disease, disease education, community prevention services, and health care. These findings are summarized below:

Major barriers that exist and prevent adult participation in behavior change actions and educational programs to reduce primary risk factors.

- Communities do not provide activities, facilities, screenings to identify risk factors, or educational programs that are accessible and affordable.
- Worksites do not provide supportive systems (environments) that motivate people to be healthy.
- Faith communities, around which many African-Americans experience community, do not offer programs that would be helpful, such as walking programs and healthy food choices at church dinners.
- Restaurants in rural areas do not offer healthy choices and fast food restaurants might be the only choice in some rural areas.
- Grocery stores do not have a variety or inviting display of fruits and vegetables, or offer healthy foods at affordable prices, especially in rural areas where they might not have competition.

Barriers Identified by Youth

- Grade requirements for sports.
- Too much violence in the community.
- No opportunities for sports/activities as evidenced by lack of facilities or equipment.
- After school programs geared only to school athletes.
- Not enough parental involvement—many parents work two jobs, both parents work.
- No after school programs available—tendency to watch too much television.
- School lunches are not appetizing and lack variety.
- Availability of fast food and fast food brought into school from outside.
- Preference for vending machine snacks like crackers, sodas, and candy instead of fruit.
- Easy availability of snack foods at home
- Lack of community gardens or produce vendors.
- High cost of healthier foods.

Barriers to Effective Cardiovascular Disease Education and Care

Primary care providers — The South Carolina Peer Review Organization (PRO) documents the fact that only about 35 percent of physicians who serve Medicaid and Medicare clients meet the standard of care for cardiovascular disease set by the American Heart Association. These findings

suggest that the AHA guidelines for clinical practice have yet to be implemented by all primary care providers in the state.

Community health centers — Another study, which focused on primary care providers in community health centers, found that the most common barriers to providing adequate health care and patient education were low incomes, time constraints/long waiting periods, and lack of transportation. Moreover, restrictive clinic hours of operation and the lack of physician availability on weekends impede residents' access to appropriate care, especially in rural areas.

Gaps in Cardiovascular Health

Although the SC CVH Program and its partners have made progress in identifying and defining the problem of CVD in the state, significant gaps have been identified. These include gaps in health education, community intervention, health systems, and environment and policy.

Health Education

While health education efforts have generally resulted in positive behavior changes among targeted groups, there are a number of areas that need to be improved. Health education materials need to be culturally sensitive, especially when designed to affect African-Americans. Unique characteristics of this population warrant careful consideration as to what is appropriate in the message that is being conveyed. It should be noted that the most successful programs work diligently with the community to foster trust and support. This includes providing a comfortable environment for the audience, usually a school, church, or health fair, where the message is not preached, but is conveyed in a more subtle way. Building up the audience's confidence assures that the message is not perceived in a negative way, and might encourage the community to take ownership of the message and sustain the effort itself.

Additionally, materials should be translated into different or second languages so that health education programs can be directed to hard-to-reach populations. Staff need to be trained in communication and data analysis so that the data can be explained and the message understood by the audience. This is crucial to a program's success or failure.

Community Intervention

Similarly, community CVH programs must be able to convey the message clearly and concisely. Community groups must be involved from the beginning to assure trust, support, and a sense of ownership. There also exists fragmented and duplicative community efforts.

This gives mixed messages to the community and can undermine the most successful effort. Additionally, too many programs directed at one community can result in overload, with negative results. While it is important to gain the support of community leaders for a program to be successful, expecting the same leaders to support multiple and similar programs is burdensome. Closer coordination among state agencies and community groups is required to result in effective programs that can improve health and quality of life.

The SC CVH Steering Committee is a statewide partnership with a commitment to direct the implementation of the plan and ensure that programs developed to promote healthy behavior are delivered in an overall collaborative effort with the community.

Health System

One of the most serious gaps in program delivery is translating science into practice. Most people are not aware of the latest technology or research, nor are able to understand the intent. Health agencies must be able to take scientific research and technological innovations and effectively communicate the message. This is not only true regarding health education and public awareness, but in assuring access and referral to those affected by CVD. Innovations in treatment techniques are sometimes slow in coming down to clients, especially with regard to self-management. Health agencies need to work more closely with health care professionals and health care systems to improve patient education for self-management and treatment of CVD. Additionally, health agencies need to strengthen relationships with community health centers and clinics to ensure that rural residents, the medically underserved, the poor and indigent patients can receive the benefits from these medical advancements, health care education and services.

Environment and Policy

As stated previously, health promotion programs must have a multi-level approach to behavior change. Evidence shows that concentrating on the individual has not proven effective to impact overall cardiovascular health. A broader approach involving local communities and state policymakers can achieve the desired outcomes more quickly if the message being conveyed is clear and concise.

Policy changes are defined as laws, regulations, formal and informal rules and understanding adopted on a large scale to guide individual and groups' lifestyle choices. Environmental changes are measures or action taken to alter the physical and social surroundings, but are not policy.

Working with community organizations, businesses, health agencies, faith communities, local leaders, legislators, and the media is important to generate public education and awareness campaigns that can facilitate community action and influence prevailing social and cultural values to adopt the behavior change. Reinforcement of the message can be very successful not only in the short-term, but in maintaining and sustaining the long-term effort.

Although CVD is the leading cause of death in South Carolina, taking a large toll among all sexes, races, and ages, it is especially acute among African-Americans, the poor/indigent/underserved, and rural residents.

African-Americans

African-Americans suffer disproportionately from CVD, primarily heart disease, stroke, and hypertension, which cuts across all age groups and in all facets of the disease. African-Americans are more likely than their white counterparts to suffer the symptoms of CVD earlier in life, die earlier, and become debilitated from the disease than the white population. Thus, cardiovascular disease is the most serious health challenge facing African-Americans today.

African-Americans comprise over 30 percent of South Carolina 4 million residents in 2000, ranking it fourth among the states in the percent of minority to total population. This is over 50 percent higher than the
20 percent minority population for the nation as a whole. The problem is exacerbated by the fact that African-Americans are at greater risk of developing CVD and are less likely to practice healthy behaviors to control it. As stated previously, African-Americans are more likely to be overweight and/or obese, are more likely to use tobacco, are less likely to eat at least five fruits and vegetables a day (proper nutritional diet), and are less likely to engage in regular and sustained physical activity than the white population. In addition, African-Americans have higher rates of hypertension, blood cholesterol, and diabetes than whites as well as lower rates of regular medical visits to check their blood pressure and blood cholesterol levels. These reports confirm that the gap for CVD/CVH between African-Americans and whites continues to increase over time.

Poor/Indigent/Underserved

Over one-third of South Carolinians are at risk of becoming medically indigent. This includes the one in six South Carolinians that earn incomes below the poverty level as well as another one-fourth of South Carolinians that earn incomes between 100% and 200% of the poverty level. These persons are likely to be unable to pay their medical bills, especially if hospitalization is required, and are most likely to forego needed medical care until they can afford it. This becomes more serious if children are involved. In 1989, over 20 percent of South Carolina's children and youth lived in poverty. As expected, African-American children suffered disproportionately at 39%, a rate over 4 times higher than white children. This population depends on Medicaid to cover their medical care costs, but recent budget restrictions and tight Medicaid eligibility standards have made it increasingly difficult for families to maintain their eligibility in the program. Additionally, low Medicaid reimbursement rates for physicians have reduced the number of physicians who accept Medicaid patients. Quality

of life issues are not any easier for elderly residents, where over one in five South Carolinians over age 65 earn incomes below poverty. This population is also endangered by inadequate Medicare coverage and a decreasing number of physicians who accept Medicare reimbursement.

Rural Population

Before 1990, South Carolina was a predominantly rural state. That changed when the 1990 Census revealed that more than half of South Carolinians live in identified urban or urbanized areas. This has increased slightly over the past decade, such that now, over 55 percent of South Carolina residents are characterized as urban. This leaves about 45 percent of residents living in rural areas. One major characteristic of rural areas is their lack of available medical care. Not only are general practitioners not readily available in rural areas, but specialty care is practically non-existent. Rural residents also tend to have higher rates of poverty than their urban counterparts and are less likely to practice healthy behaviors. Hence, their elevated risk factors for CVD. This problem becomes more acute in that rural residents are less likely to travel to medical care. Many rural residents forego medical check-ups and treatment due to long waiting times in physician offices and no hospitals located within a reasonable distance from their homes. Currently, half of South Carolina's counties (23 of 46) are classified as Health Professional Shortage Areas and three-fourths of the state's counties (34 of 46) are classified as Medically Underserved Areas. Of the remaining 12 counties, almost all have portions are classified as medically underserved, including the downtown areas of the state's three major cities (Charleston, Columbia, and Greenville). Another factor in rural areas is the lack of public transportation. Many rural residents do not own vehicles or cannot drive due to age or infirmity and are dependent on others for their transportation needs. This lack of access translates in their needs being met intermittently, leading to missed physician appointments, not receiving needed medical care or obtaining necessary prescription drugs, or not being able to get to a health care facility in an emergency.

PREVENTION AND MANAGEMENT OF RISK FACTORS

South Carolina ranks 7th in the nation in heart disease death rates. Approximately 43% of the deaths in SC each year are due to cardiovascular diseases. Altering environment and lifestyle factors may have the largest impact on health outcomes in the long term. This primary prevention prior to the onset of disease includes health promotion and risk factor reduction strategies. The following are risk factors that will be targeted within the state plan.

Management of Risk Factors

Secondary prevention efforts in this plan address complications among South Carolinians who suffer from cardiovascular disease, with a priority focus on prevention among African American men and women who suffer the greatest disparity in hypertension, high cholesterol, obesity, and diabetes. Strategies to improve the treatment of CVD are focused on developing statewide infrastructure development and through comprehensive interventions in health systems, health communications, and community interventions.

Measurable outcomes for management of CVD involve screenings, and treatment and control of risk factors. Select strategies and activities have been identified for implementation by public health, healthcare and other organizations and community groups to facilitate improvement in primary, secondary and tertiary prevention that will work jointly to help meet the goals of the plan. SC Carolina Medical Review has provided quality assurance data indicating that intervening through Community Health Centers in SC, which serve the poor, uninsured, medically indigent, and predominantly African American population in rural and urban areas of SC, could reduce the complications from risk factors. This secondary prevention component of the overall plan has been developed to impact the DHEC Strategic Plan Objectives and Health Resources and Services Administration's Campaign for 100% Access and 0% Health Disparities as well as to address the national Healthy People 2010 Objectives for cardiovascular disease control. Coordination of evaluation efforts will be organized by the SC DHEC, Division of Cardiovascular Health Program with review from the SC CVH Steering Committee and from participation of other organizations and communities across the state.

With early identification and detection of risk factors and disease, lifestyles can be modified and lives can be saved. Tertiary strategies involve the management of risk factors, treatment of cardiovascular disease, prevention of complications and the prevention of recurrent events.

Physical Inactivity

Prevention

Definition — Individuals who are inactive report no non-occupational physical activity in the past 30 days. Individuals who are irregularly active report some moderate or vigorous activity, but are not regularly active. Individuals who are regularly active report either 5 or more days a week of physical activity for a total time of 150 minutes or more, or 3 or more days a week of vigorous activity for 20 minutes or more each session.

Among adults in South Carolina, only 20 percent are regularly active. Half are irregularly active and nearly 30 percent are completely inactive.

Problem — In 1996, the lack of regular physical activity in SC caused an estimated 21 percent of all heart disease, 21 percent of all cases of high blood pressure and 40 percent of all diabetes. Physically inactive and irregularly active lifestyles result in untimely deaths, unnecessary hospitalizations, hospital charges and other personal and social burdens. These high levels of morbidity and mortality can be positively impacted by promoting opportunities for increasing physical activity.

Primary prevention strategies — Work with various school, youth, and adults organizations to provide adequate education on the benefits of regular physical activity.

Conduct a social marketing campaign to advocate for and support increased opportunities for physical activity that are safe and accessible.

Develop infrastructure that encourages local programs to support physical activity outlets in communities.

Establish community walking clubs.

Encourage worksites to offer flextime for employees to engage in physical activity programs during the day.

Management

Secondary prevention strategies — Conduct trainings for health care providers that encourage increased counseling, screenings, and referrals for physical activity programs.

Tertiary strategies — Provide adequate access to cardiac rehabilitation programs for those afflicted with heart disease.

Unhealthy Eating Habits

Prevention

Definition — Individuals with unhealthy eating habits are not following the Dietary Guidelines for Americans. Their average diet is inadequate in fruit and vegetable consumption, excessive in high fatty food consumption and they have an excessive intake of calorie dense foods and beverages.

Problem — Poor dietary behaviors are associated with an increased risk of developing chronic diseases such as cardiovascular disease, stroke, Type 2 Diabetes, hypertension, obesity, osteoporosis, and some forms of cancer. In SC, only 25% of the population eats the recommended 5 or more servings of fruits & vegetables daily.

Primary reduction strategies — Conduct a social marketing campaign and work with various school, youth, and adult organizations to provide education on the benefits of heart healthy nutrition

Work with restaurants to prepare and designate heart healthy foods.

Work with worksites to develop guidelines for vending machine content.

Work with faith communities and senior centers to develop environments supportive of heart healthy nutrition.

Management

Secondary prevention strategies — Work with community groups, schools and worksites to develop physical environments supportive of heart-healthy eating.

Work with healthcare providers to develop a mechanism for referrals to nutrition programs for individuals diagnosed as overweight or obese.

Conduct diet analyses that screen for poor eating habits.

Tertiary strategies — Work to increase access and referral to counseling and education programs that address overweight and obesity.

Tobacco Use

Prevention

Definition — Tobacco use includes any form of cigarette smoking, pipe smoking, chewing tobacco or snuff. All of these forms contain nicotine, which contributes to the deadly effects of tobacco use. 23 percent of South Carolinians smoke. Smoking is an indirect cause of 20 percent of the deaths in our state.

Problem — Nicotine narrows or blocks the arteries traveling to and from the heart, thereby reducing the oxygen supply to the heart. Tobacco use increases the plaque build up in the arteries that further reduces blood flow. Decreases in blood flow lead to hypertension and other forms of cardiovascular disease.

Primary reduction strategies — Conduct a social marketing campaign and work with various school, youth, and adult organizations to provide adequate education on the dangers of tobacco use.

Develop youth tobacco prevention coalitions.

Management

Secondary prevention strategies — Conduct trainings to health care providers that encourage increased counseling and referrals for smoking cessation

Make smoking cessation treatment and services more available by working with health care providers and by educating those who purchase health plans.

Tertiary strategies:

Work with various school, youth, and adult organizations to promote the availability of cessation resources.

Promote the establishment of school-based youth cessation programs.

Incorporate effective youth cessation programs into teacher training opportunities.

High Blood Pressure

Prevention

Definition — Blood pressure is caused by the pumping of blood from the heart into the arteries. Systolic pressure, the top number, is the higher pressure and is measured when your heart contracts, or beats. Diastolic pressure is the bottom number. It is the lower pressure and occurs when the heart is relaxed and refilling between beats. A reading of more than 140/90 mm Hg is considered high.

Problem — High blood pressure can lead to heart failure, stroke, heart attack, kidney damage, blindness and more.

Primary reduction strategies — Work with various school, youth, and adult organizations to provide education about the danger and impact of uncontrolled high blood pressure.

Management

Secondary prevention strategies — Work with various school, youth, and adult organizations to educate South Carolinians on the importance of obtaining appropriate blood pressure screenings.

Study the feasibility of implementing screening programs to youths.

Ensure that screenings are accessible (convenient location, sufficient hours of business, culturally competent staff, and adequate transportation to and from screening).

Identify resources that can provide equipment and qualified personnel for assessment.

Disseminate standardized protocols for assessment, interpretation of results, and referral.

Establish a mechanism by which appropriate follow-up support will be made available at identified sites.

Tertiary strategies — In cooperation with community groups and provider organizations, develop social marketing messages that promote awareness of how physical activity, proper nutrition and tobacco use cessation can help manage high blood pressure.

Provide culturally appropriate, reader-friendly patient brochures to provider organizations and community resource centers.

Work with the SC Medical Association, Medicaid, pharmaceutical companies and other providers to simplify the application process for prescription medication assistance for lower-income populations.

Develop social marketing messages that encourage patients to request generic medications when appropriate and to encourage the importance of compliance for medication use.

Elevated Cholesterol

Prevention

Definition — Cholesterol is an essential component in the structure of cells and is also involved in the formation of important hormones and Vitamin D. It is produced by the liver, which provides all the cholesterol an individual needs. Excess cholesterol in the bloodstream can form plaque on artery walls that narrows arteries and reduces blood flow to the heart.

Problem — A high level of cholesterol in the blood increases the risk of CHD. The build up of plaque and the narrowing of arteries can lead to chest pain, and if left untreated, can eventually lead to a heart attack.

Primary reduction strategies — Educate children, youth and adults on the significant impact that a low fat diet and physical activity have on lowering cholesterol levels.

Work with various school, youth, and adult organizations to provide education about the danger and impact of high cholesterol.

Management

Secondary prevention strategies — Work with various school, youth, and adult organizations to educate South Carolinians on the importance of obtaining appropriate blood cholesterol screenings.

Study the feasibility of implementing screening programs to youths.

Ensure that screenings are accessible (convenient location, sufficient hours of business, culturally competent staff, and adequate transportation to and from screening).

Identify resources that can provide equipment and qualified personnel for assessment.

Disseminate standardized protocols for assessment, interpretation of results, and referral.

Establish a mechanism by which appropriate follow-up support will be made available at fixed sites.

Tertiary strategies — Provide culturally appropriate, user-friendly patient brochures to provider organizations and community health centers that treat patients with high cholesterol.

Work with the SC Medical Association, Medicaid, pharmaceutical companies and other providers to simplify the application process for prescription medication assistance for lower-income populations.

Develop social marketing messages to encourage patients to request generic medications when appropriate and to encourage the importance of compliance for medication use.

Overweight

Prevention

Definition — Obesity and overweight are determined by Body Mass Index (BMI) (weight in kilograms divided by height in meters squared). To estimate BMI using pounds and inches, use: [weight (pounds) divided by height (inches)^2 x 703]. Individuals are considered obese if their BMI is 30 or greater and overweight if their BMI is 25 or greater.

Problem — Overweight and obesity are of epidemic proportions in SC occurring among half of the adult population. In 1998 SC ranked 10th highest in the nation for self-reported rates of overweight and obesity. In children, obesity rates have doubled over the last ten years. Obesity is strongly associated with Type 2 diabetes, heart disease, high blood pressure, stroke, some cancers, and a wide range of other diseases affecting SC citizens. SC's minority populations (African Americans, Hispanics, and Native Americans) experience extremely high rates of overweight and obesity.

Primary reduction strategies — Work with schools to develop policies on competitive foods and to establish "healthy snacks" policies.

Work with various school, youth, and adult organizations to educate South Carolinians on the dangers of obesity.

Management

Secondary prevention strategies — Encourage physicians to use BMI as a screening tool for the determination of overweight or obese status in both children and adults.

Work with various school, youth, and adult organizations to educate South Carolinians on the importance of obtaining appropriate screenings for obesity.

Ensure that screenings are accessible (convenient location, sufficient hours of business, culturally competent staff, and adequate transportation to and from screening).

Identify resources that can provide equipment and qualified personnel for assessment.

Disseminate standardized protocols for assessment, interpretation of results, and referral.

Establish a mechanism by which appropriate follow-up support will be made available at fixed sites.

Tertiary strategies — Work with community partners to promote the development of programs for diagnosed obese children.

Diabetes

Prevention

Definition — Diabetes is a medical condition in which the body either does not produce insulin or does not properly use insulin. Insulin is a hormone that converts sugars and starches into energy for daily living. There are three types of diabetes: Type I, Type II, and Gestational Diabetes Mellitus. Type I diabetes is a disease that prohibits the body from producing insulin. Type I affects mostly children and adolescents and comprises approximately 5 to 10 percent of all diabetes cases. Type II diabetes is a metabolic disease affecting the body's ability to produce any or enough insulin. The prevalence of Type II diabetes is nearing epidemic proportions and comprises approximately 90 to 95 percent of all diabetes cases. Gestational Diabetes Mellitus (GDM) is diagnosed during pregnancy and in most cases disappears after the birth.

Problem — Diabetes is the sixth leading cause of death in South Carolina. It accounts for 14 percent of all hospital discharges, and the total yearly hospital and emergency room costs of diabetes is $850 million. The prevalence of diabetes in South Carolina is more than double for the non-white population (9–10 percent) vs. 4 percent among the white population. A host of complications arise from diabetes that include blindness, kidney disease, nerve disease and amputations, heart disease and stroke, high blood pressure, dental disease, and impotence.

Primary reduction strategies — Work with various school, youth, and adult organizations to educate South Carolinians on the dangers of uncontrolled diabetes.

Management

Secondary prevention strategies — Work with various school, youth, and adult organizations to educate South Carolinians on the importance of obtaining appropriate screenings for diabetes.

Ensure that screenings are accessible to both adults and youth (convenient location, sufficient hours of business, culturally competent staff, and adequate transportation to and from screening).

Identify resources that can provide equipment and qualified personnel for diabetes assessment.

Disseminate standardized protocols for assessment, interpretation of results, and referral.

Establish a mechanism by which appropriate follow-up support will be made available at identified sites.

Provide diabetes screenings for children and youth of parents with CVD risk factors and/or CVD.

Create and disseminate public service announcements (PSA'S) about the importance of screening diabetics' children for the disease.

HEALTH COMMUNICATION PUBLIC AWARENESS CAMPAIGN

The Health Communication Public Awareness Campaign's purpose is to support the goals and objectives of the larger SC CVH state plan. This Public Awareness Campaign exclusively addresses communication issues.

Campaign Goal: To support the goals and objective of the overall SC CVH State Plan.

A health communication sub-committee from the SC CVH steering committee was formed to address the health communication and social marketing efforts of the overall CVH project. The sub-committee consisted of diverse partners from around the state, representing healthcare, education, insurance, quality improvement and other organizations.

To support the SC CVH State Plan, the sub-committee designed an awareness campaign that has eight major objectives:

- ***Campaign Objective:*** Define the marketing mix components (product, price, place, promotion) of the SC CVH State Plan.
- ***Campaign Objective:*** Create a brand identity for the SC CVH State Plan.
- ***Campaign Objective:*** Obtain support for the development of a comprehensive, coordinated statewide plan for a CVH health communication-social marketing campaign.
- ***Campaign Objective:*** Adopt a health communication-social marketing plan that supports cardiovascular disease information/education dissemination, risk factor reduction, and CVD prevention through behavioral, policy, and environmental change.
- ***Campaign Objective:*** Promote participation among existing SC community leaders, health care partners and intermediaries, and other interested partners in the SC CVH Program initiative for coordinated and collaborative CVH programming/promotion.
- ***Campaign Objective:*** Identify South Carolina hospital, community and university, public and community health researchers and promote the coordination of their research efforts to assess factors associated with CVD and the mechanisms to share their research findings.
- ***Campaign Objective:*** Establish and promote advocacy efforts that build resource support for SC CVH Program initiatives and the statewide and community behavior change as well as policy and environmental change for the reduction of CVD.
- ***Campaign Objective:*** Establish evaluation measures to ensure implementation of the health communication-social marketing campaign, and design evaluation criteria for measuring the effectiveness of those efforts.

To accomplish the campaign objectives, the committee divided the campaign into three phases: Development, Promotion and Evaluation.

Phase One: Promotion

The purpose of the Promotion phase is to raise community awareness about the SC CVH Program initiative, to invite additional partners to participate, and to advocate for support of the statewide initiative. The subcommittee developed "The Heart of South Carolina" as the brand identity to reflect the collaborative and coordinated CVD prevention efforts of programs and agencies across the state.

The sub-committee developed specific strategies to accomplish Phase One:

- ***Strategy***: Advocate for funds to be made available to construct and implement a health communication-social marketing campaign.

- ***Strategy***: Identify and hire an appropriate marketing firm to finalize the SC CVH Plan marketing mix and construct the health communication-social marketing campaign.

- ***Strategy****:* Further develop, tailor and disseminate the brand identity, "The Heart of South Carolina," in order to effectively reach a broad array of potential audiences.

- ***Strategy****:* Develop and disseminate information about the SC CVH Program initiatives which serves to:
  - Explain the SC CVH Program efforts and plan to the public and potential/existing partners;
  - Explain how and where the public and potential/existing partners can support the plan and advocate for change through the implantation of the plan and its strategies; and
  - Inform the public and potential/existing partners about how to become involved with the and support CVH initiatives.

- ***Strategy****:* Develop and disseminate campaign messages that adhere to the principles of effective health communication and are supported by social marketing techniques (e.g. audience segmenting, consumer orientation, etc.).

- ***Strategy****:* Enlist the support of state and local media organizations to promote the campaign objectives among South Carolinians.

- ***Strategy****:* Identify and address gatekeepers who can advocate for policy change and resource support that supports the SC CVH State Plan.

- ***Strategy****:* Provide SC health educators in priority agencies and organizations with promotional materials that support the SC CVH State Plan.

- ***Strategy****:* Provide current, audience-appropriate CVH information to supporters and advocates of the SC CVH Program.

Phase Two: Development

The purpose of the Development phase is to raise community awareness about healthy behaviors and risk factors related to CVD, to increase community awareness of counseling, screening and treatment services available in the state, and to advocate for resources that support the statewide initiative.

The sub-committee created specific strategies to accomplish Phase Two.:

- ***Strategy***: Conduct CVD-related formative research to identify CVH intervention points appropriate for South Carolinians.

- ***Strategy****:* Disseminate information to increase awareness of CVD-related research needs and funding opportunities among university, hospital-based, and community researchers.

- ***Strategy***: Identify existing or create new communication channels (updates/newsletters, web sites, etc.) to distribute
  CVH-related information to new and existing CVH partners, researchers, and priority populations.

- ***Strategy****:* Identify existing CVH messages that use appropriate sources, channels, and mediums for the effective communication of strategic messages to diverse audiences at individual, community, agency, and political levels.

- ***Strategy***: Develop and implement a state-wide media campaign to increase population awareness of CVD risk factors, behaviors associated with risk reduction, and available screening, counseling and treatment services.

- ***Strategy****:* Coordinate CVH messages across partners in order to promote awareness among South Carolinians regarding cardiovascular disease and approaches for adoption of behaviors that preserve and promote cardiovascular health with emphasis on:

  1) Individuals in communities with highest rates of CVD;
  2) Prevention of disease among adults aged 35-65;
  3) African Americans adults.

- ***Strategy****:* Coordinate public relation-type activities across partners (e.g. health fairs, special events, kick-off events, personal success stories in local papers, etc.).

Phase Three: Evaluation and surveillance

The SC CVH Program coordinate evaluation efforts with review from the Steering Committee and from participation of other organizations and communities across the state.

The SC CVH Program will use the CDC Framework for Program Evaluation to evaluate progress toward reaching desired outcomes in cardiovascular disease prevention and control through the CVH State Plan. This evaluation model helps guide program evaluation through process, impact, and outcomes. A feedback loop in the model will ensure program staff remains focused, implementation objectives are being met, and outcomes achieved.

Legislative and Resource Development

The CVH Steering Committee recognized that support from the SC General Assembly, local policy makers, and other state and community decision-makers would be essential to reach the goals set forth in the plan. The legislative/policy subcommittee was formed to explore strategies and activities necessary to gain support from these decisions makers and ensure adequate funding and policy direction for the plan. The committee studied the basics of civic involvement and public policy campaigns and recommended that support for the plan be developed based on the following:

- An effective communication plan based on data and social marketing techniques will be developed.
- Credibility with policy makers will be established through direct, consistent contact.
- Fact sheets will be developed to present clear, consistent message and to demonstrate the fiscal and societal benefits to be gained.
- The media will be engaged.
- Coalitions and partnerships will be used to enhance credibility and facilitate access to target groups.

Recommended Legislative and Policy Initiatives:

- Provide the General Assembly and the SC Congressional delegation information on the importance of increased funding for prevention, early detection, and treatment of CVD.
- Coordinate with the AHA to present programs, such as Heart on the Hill, to legislators, to increase their knowledge of cardiovascular health issues.
- Inform and educate legislators and policy makers about the burden of stroke and how stroke disproportionately affects African Americans and other minority populations.
- Advocate for the General Assembly and insurance regulators to ensure coverage for preventive health services.
- Advocate for legislation and additional resources to fund local community infrastructure that would build heart healthy communities. Support legislation and funding for a stroke registry.
- Coordinate with the SC Stroke Task Force and American Heart Association to develop and implement a plan to address the public health challenges of the Stroke Buckle through the coordinated use of federal, state and local resources.
- Develop the capacity and funding to identify and monitor disparities in the incidence, prevention, and treatment of CVD.

Policy development is the process by which the state makes decisions and allocates resources to address needs. The health of South Carolina and its citizens is the shared responsibility of many organizations and interests. The numerous partners involved in development of this plan provide a strong foundation to gain legislative support and develop public policy that will improve cardiovascular health in South Carolina.

Evaluating the Plan

The SC CVH Program will use the CDC Framework for Program Evaluation as a guide for the evaluation of the progress of the Plan in reaching its goals and objectives in CVD prevention. This framework helps guide program evaluation through process, impact, and outcomes. A feedback loop in the model will ensure that program staff remain focused, that implementation objectives are being met, and that desired outcomes are being achieved. Additionally, deficiencies pointed out by the evaluation will be reviewed by the CVH Steering Committee and recommendations will be developed to address the problem.

The framework outlines six steps to direct the development, data collection, and dissemination of the evaluation.

Step 1: Engage stakeholders

The SC CVH Program has developed strong partnerships and relationships with a variety of state and local agencies over the past several years. Evaluation of the interactions with partners and stakeholders is warranted to ensure that program activities are effectively coordinated.

Step 2: Describe the Program

The SC CVH Program has developed a logic model to outline its activities in regard to strategic planning and plan development. Evaluation of the model is necessary in assuring an efficient planning process.

Step 3: Focus the Evaluation Design

Evaluation questions will be designed to measure the process, impact, and outcomes. Feedback will be provided to assess program activities within communities for improving implementation. Analysis of the changes in policies and environmental supports, as well as population health status will be monitored to assess the overall operation of the SC CVH Program.

Step 4: Gather Credible Evidence

Data collection is important in evaluating program impacts in the community as well as assessing relationships with partners and the health districts. An analysis of the SC CVH Program's collaborative activities focuses on how well relationships are built and sustained.

Step 5: Justify Conclusions

Once data collection is completed, the findings of the evaluation will be compared with the overall goals and objectives outlined in the Plan. Based on how well these goals and objectives have been achieved, recommendations will be made to enhance or revise the SC CVH State Plan.

Step 6: Ensure Use and Share Lessons Learned

To ensure that mistakes are not repeated, an annual evaluation summary will be compiled and distributed to all partners involved with the implementation of the Plan. This will provide a continual feedback mechanism for improving the SC CVH Program's efforts.

This comprehensive evaluation effort will involve the participation of everyone involved with the SC CVH Program. Surveys and interviews with organizational and community partners around the state will be important to assess the effectiveness of the process to guide the implementation of the plan. Furthermore, monitoring program delivery will gauge whether staff are connecting with the community and whether the message is being communicated successfully. Measuring the impact of the health education campaign in changing health behavior is a crucial determinant in a program's success. Moreover, the ability to assess the sustainability of an effort to reinforce healthy behavior can be used in monitoring long-term influences on social and cultural values. Maintaining vigilance by continual assessment will enhance the Program's capacity to build on past successes and failures and foster better preparation to meet future challenges.

APPENDIX A

CARDIOVASCULAR HEALTH WORK PLAN WITH SAMPLE STRATEGIES AND ACTIVITIES

OBJECTIVES


INDIVIDUAL CHANGE


HEALTH CARE SYSTEMS


COMMUNITIES


PUBLIC POLICY


MINORITY POPULATIONS

GOAL 1 **Promote healthy behaviors among all South Carolinians to prevent or reduce cardiovascular diseases with a focus on reducing health disparities.**

Objective 1: South Carolinians will adopt healthy behaviors, including being physically active, avoiding tobacco use, and adopting heart-healthy nutritional habits.

Outcome 1: By 2007, the percentage of adults in South Carolina who are inactive will be decreased and the percentage of youth in South Carolina who participate in vigorous activity for at least twenty minutes on three or more of the past seven days will be increased.

Strategy 1: Support and expand partnerships to educate youth and adults on the impact of physical activity on cardiovascular health.

***Activities*:**

1. Work with community groups including minority focused organizations, worksites, and faith communities to provide education on the benefits of physical activity.
2. Conduct a culturally appropriate social marketing campaign to educate on the benefits of physical activity.
3. Work with schools after-school programs, and youth organizations to educate youth on the benefits of physical activity.
4. Conduct a social marketing campaign geared toward youth on the benefits of physical activity.

5. Provide heart healthy information for minority based organizations and/or campaigns.

Strategy 2: Support and expand partnerships to encourage increased participation in and to provide opportunities for physical activity among youth and adults.

Activities:

1. Encourage worksites to offer flextime so that employees can engage in physical activity programs during the day.
2. Encourage community leaders to advocate for safe, accessible environments supportive of physical activity.
3. Establish community-walking clubs.
4. Work with senior centers to develop physical activity programs designed for seniors.
5. Conduct culturally appropriate social marketing campaign to advocate for and support increased opportunities for physical activity.
6. Work with schools, school boards, and policy makers to increase the number of students who receive daily physical education.
7. Work with schools and school boards to increase the number of physical education classes taught by certified physical education teachers.
8. Work with schools to implement the Centers for Disease Control eight-component model for Healthy Schools.
9. Encourage community leaders to advocate for the provision of safe, accessible opportunities for youth to participate in physical activity.
10. Work with schools, after-school programs, and youth organizations to provide safe, accessible opportunities for youth to participate in physical activity.

Outcome 2: By 2007, the percentage of adults in South Carolina who have been advised by a health care provider to exercise more will be increased.

Strategy 1: Support and expand partnerships to encourage health care providers to increase counseling and referrals for physical activity and to convey this information in a culturally appropriate manner as needed.

Activities:

1. Conduct trainings for health care providers.

2. Encourage patients to ask questions about their health, become advocates for their own health.

3. Promote and encourage the use of electronic medical record systems health care sites.

Outcome 3: By 2007, the percentage of adults in South Carolina who smoke will be decreased and the percentage of youth in South Carolina who smoked cigarettes on one or more of the past thirty days will be decreased.

Strategy 1: Support and expand partnerships to educate youth and adults on the impact of tobacco use on cardiovascular health.

Activities:

1. Work with community groups, including minority focused organizations, worksites, and faith communities to provide education on the dangers of tobacco use.

2. Conduct a culturally appropriate social marketing campaign to educate on the dangers of tobacco use.

3. Work with schools, after-school programs, and youth organizations to educate youth on the dangers of tobacco use.

4. Conduct a culturally appropriate social marketing campaign geared toward youth that challenges the appeal of tobacco use.

5. Collaborate with youth tobacco prevention coalitions.

Strategy 2: Support and expand partnerships to support increased proven effective smoking cessation opportunities for youth and adults.

Activities:

1. Work with community groups including minority focused organizations, worksites, and faith communities to promote the availability of cessation resources.

2. Promote the establishment of school-based youth cessation programs.

3. Assist with teacher training opportunities with proven effective cessation programs designed for youth such as *Science, Tobacco and You*.

Strategy 3: Support and expand partnerships to support decreased youth access to tobacco products.

Activities:

1. Encourage schools and school boards to limit tobacco use on school property and at school events.

2. Work with schools to implement the Centers for Disease Control eight-component model for Healthy Schools.

Outcome 4: By 2007, the percentage of adults in South Carolina who have been advised by a health care provider to quit smoking will be increased.

Strategy 1: Support and expand partnerships to encourage health care providers to increase counseling and referrals for smoking cessation and to convey the information to patients in a culturally appropriate manner as needed.

Activities:

1. Conduct trainings for health care providers.

2. Work to make smoking cessation treatment and services more available through working with health plans and through the education of those who purchase health plans.

3. Identify and develop resources to assist health care providers with counseling for risk factors and referrals for health related programs.

4. Encourage the use of the *Ask, Advise, Assist, Arrange Program* for tobacco use reduction and prevention.

5. Develop culturally appropriate resources intended audience for waiting room time to be used more productively as patient awareness and education opportunities.

Outcome 5: By 2007, the percentage of adults in South Carolina who eat five or more fruits and vegetables each day will be increased and the percentage of youth in South Carolina who eat five or more fruits and vegetables each day during the past seven days will be increased.

Strategy 1: Support and expand partnerships to educate adults on the impact of heart-healthy nutrition on cardiovascular health.

Activities:

1. Work with community groups including minority organizations, worksites, faith communities, and retail food outlets to provide education on the benefits of heart-healthy nutrition.

2. Conduct a culturally appropriate social marketing campaign to educate on the benefits of heart-healthy nutrition.

3. Conduct a social marketing campaign geared toward youth on the benefits of heart-healthy nutrition.

4. Work with school boards, district and school administrators, teachers, and school food service personnel to:

    a. Integrate behavior-focused nutrition education into the curriculum from pre-K through grade 12.

    b. Utilize school cafeterias as an integrated part of the educational program and a learning laboratory for nutrition education.

    c. Work with parents particularly those with children receiving free and reduced meals, adults in the school, and adults in youth organizations in the school and community to encourage them to serve as positive role models who reflect the benefits of healthy eating and utilize heart healthy messages and themes as incentives.

Strategy 2: Support and expand partnerships to encourage increased participation in and to provide opportunities for heart-healthy nutrition among youth and adults.

Activities:

1. Encourage restaurants to prepare and designate heart-healthy foods.

2. Work with worksites to develop guidelines for vending machine content.

3. Work with faith communities to develop environments supportive of heart-healthy nutrition.

4. Work with senior centers to develop environments supportive of heart-healthy nutrition.

5. Increase access to affordable heart-healthy foods including fresh fruits and vegetables through advocacy efforts and by working with retail food outlets and farmer's markets and creating food co-ops.

6. Work with school boards, district and school administrators, teachers, and school food service personnel to:

    a. Develop support policies that foster healthy eating patterns and encourage availability of healthy food throughout the day in all sites where food is offered.

    b. Restrict sale of foods by school or community groups that have minimum nutritional value.

c. Base decisions on sale of additional foods outside the national school lunch and breakfast program on nutritional goals rather than profit making objectives.

7. Work with School Nutrition personnel to:

   a. Designate heart-healthy foods.

   b. Investigate ways to assess the school's eating environment and develop a shared vision and action plan for promoting heart-healthy nutrition intake among youth.

   c. Obtain basic knowledge of the US Department of Agriculture school nutrition standards required for school meals and how they are being met in local schools.

   d. Support providing sufficient food choices to satisfy diverse student tastes, including new foods and foods prepared in new ways that meet the US Department Agriculture school nutrition standards.

Outcome 6: By 2007, the percentage of adults in South Carolina who have been advised by a health care provider to eat fewer high fat or high cholesterol foods will be increased.

Strategy 1: Support and expand partnerships to encourage health care providers to increase counseling and referrals for nutrition and to convey this information to patients in a culturally appropriate manner as needed.

Activities:

1. Conduct trainings for health care providers that increase their capacity to provide education and counseling to promote healthier eating.

2. Encourage patients to ask questions about their health, become advocates for their own health.

3. Promote and encourage the use of electronic medical record systems health care sites.

Objective 2: Community environments will support the adoption and maintenance of healthy behaviors.

Outcome 1: Promote the development of community environments, through diverse partnerships, that support heart healthy lifestyles.

Activities:

1. Work with community groups including minority focused organizations, schools, and worksites to develop physical environments supportive of heart-healthy lifestyles.

2. Work with schools to adopt policies for after-hour use of facilities by community members.

3. Work with community groups to advocate for the adoption and enforcement of smoke-free policies.

Objective 3: Public policies at the state and local level will support the adoption and maintenance of healthy behaviors.

Outcome 1: Promote the development and implementation of public policies that are supportive of heart-healthy lifestyles.

Strategy 1: Support and expand partnerships to educate legislators on the benefits of reducing cardiovascular disease through lifestyle changes.

Activities:

1. Compile per capita expenditures for cardiovascular disease.

2. Develop and distribute cost-benefit analyses for behavior change.

Strategy 2: Support and expand partnerships to utilize a common heart healthy policy agenda(s).

Activities:

1. Advocate for and support legislation that builds state/community capacity for heart healthy lifestyles.

2. Identify and advocate for the development of public policies that need to be implemented that support heart-healthy lifestyles such as decreasing access to tobacco vending machines.

3. Develop partnerships to advocate for and support implementation of policies that support heart-healthy lifestyles.

GOAL 2 Promote the early detection of risk factors for cardiovascular disease (high blood pressure, high blood cholesterol, obesity, and diabetes) and the early detection of cardiovascular disease among all South Carolinians with an emphasis on disparate populations.

Objective 1: South Carolinians will recognize the linkage between risk factors and cardiovascular disease.

Outcome 1: By 2007, increase the number of opportunities for youth and adults in South Carolina to learn that high blood pressure, high blood cholesterol, obesity, and diabetes are risk factors for cardiovascular disease.

Strategy 1: Support and expand partnerships to educate youth and adults on the modifiable risk factors for cardiovascular health, increased risk for minorities, and the impact of family history on the disease.

Activities:

1. Work with schools, after-school programs, and youth organizations, community groups, worksites, and faith communities to educate South Carolinians on the danger and impact of uncontrolled risk factors.

2. Work with community groups, worksites, and faith communities to encourage South Carolinians to know their family history for these risk factors and their potential impact.

Objective 2: South Carolinians will obtain appropriate screenings for cardiovascular disease risk factors in accordance with established guidelines.

Outcome 1: By 2007, the percentage of adults in South Carolina who know their blood pressure level, blood cholesterol levels (total cholesterol, HDL, LDL), blood sugar level, and Body Mass Index (BMI) will be increased.

Strategy 1: Support and expand partnerships to educate South Carolinians on the importance of obtaining appropriate risk factor screenings.

Activities:

1. Work with community groups including minority focused organizations, worksites, and faith communities to educate South Carolinians on the importance of obtaining appropriate risk factor screenings.

Objective 3: **The health care system will assess and counsel individuals in a culturally appropriate manner and make necessary referrals to assure prevention and control of cardiovascular disease and its risk factors.**

Outcome 1: **By 2007, the percentage of adults in South Carolina who have had their blood pressure checked during the past two years will be increased.**

Outcome 2: **By 2007, the percentage of adults in South Carolina who have had their blood cholesterol checked will be increased.**

Outcome 4: **By 2007, the percentage of high school students in South Carolina who has been appropriately screened for obesity will be increased.**

Strategy 1: Support and expand partnerships to educate health care providers on established risk factor screening guidelines.

Activities:

1. Identify and develop resources and tools for health care providers to counsel patients in a culturally appropriate manner on risk factor levels and make referrals if needed.

2. Provide tools to health care providers to counsel patients on risk factor levels and make referrals if needed.

3. Promote and encourage the usage of provided resources and tools by health care providers to counsel patients on risk factor levels and make referrals if needed.

Strategy 2: Support efforts to increase access to risk factor screenings and the need for screenings to be conducted by properly trained personnel with appropriate follow-up support services available.

Activities:

1. Promote and encourage the need for screenings to be accessible (convenient location, sufficient hours of business, culturally competent staff, adequate transportation to and from screening).

2. Identify fixed sites that can provide equipment and qualified personnel for assessment.

3. Disseminate standardized protocols for assessment, interpretation of results and referral.

4. Establish a mechanism by which appropriate follow-up support will be made available at fixed sites.

Objective 4: Communities will facilitate opportunities to increase screening, awareness, and control of cardiovascular disease and its risk factors.

Outcome 1: Support and promote opportunities for screening, awareness, and control of cardiovascular disease and its risk factors.

Strategy 1: Support and expand partnerships to increase awareness and provide screenings.

Activities:

1. Work with diverse groups in various settings to coordinate opportunities to increase screening, awareness, and control of cardiovascular disease risk factors.

Strategy 2: Support efforts to increase access to screenings for cardiovascular disease risk factors.

Activities:

1. Promote and encourage the need for screenings to be accessible (convenient location, sufficient hours of business, culturally competent staff, adequate transportation to and from screening) particularly in rural areas.

Objective 5: Public policies will encourage an increase in screening, awareness, and detection of cardiovascular disease and its risk factors.

Outcome 1: Support and promote public policies that are supportive of screening, awareness, and control of cardiovascular disease and its risk factors.

Strategy 1: Support and expand diverse partnerships to educate legislators on the health and economic benefits of early detection of cardiovascular disease and risk factors.

Activities:

1. Compile per capita expenditures for cardiovascular disease.

2. Develop and distribute cost-benefit analysis for early detection of cardiovascular disease risk factors.

Strategy 2: Support and expand diverse partnerships to identify a common heart healthy policy agenda(s).

Activities:

1. Identify and secure partnerships to advocate for the development and implementation of public policies to support the early detection of cardiovascular risk factors.

GOAL 3 Promote early and aggressive treatment and control of risk factors for cardiovascular disease (high blood pressure, high blood cholesterol, obesity, and diabetes) among all South Carolinians with a focus on reducing health disparities.

Objective 1: South Carolinians will obtain appropriate treatment for cardiovascular disease risk factors.

Outcome 1: By 2007, the number of adults in South Carolina who have high blood pressure that is under control will be increased (Control to be based on AHA standards, currently at 140/90).

Outcome 2: By 2007, the number of adults in South Carolina who have high blood cholesterol that is under control will be increased.

Outcome 3: By 2007, the percentage of adults in South Carolina who are overweight or obese will be decreased and the percentage of high school students in South Carolina who are overweight or obese will be decreased.

Outcome 4: By 2007, the percentage of adults with cardiovascular disease who demonstrate control of hypertension will be increased.

Strategy 1: Support and expand diverse partnerships to encourage management and control of cardiovascular disease risk factors through behavioral and lifestyle changes to optimal levels.

Activities:

1. Work with community groups and provider organizations to develop culturally appropriate social marketing messages to promote awareness of how physical activity, proper nutrition and tobacco use cessation can help to manage high blood pressure.
2. Provide culturally appropriate, readability-tested patient brochures to provider organizations and community resource centers.
3. Work with community organization to provide outlets for increased physical activity especially in rural areas.
4. Work with community groups, organizations and food distributors to make heart-healthy foods more readily available in outlying areas.
5. Work with partners to develop infrastructure to support transportation to community facilities providing physical activity outlets.

6. Work with partners to develop culturally appropriate social marketing campaigns to increase awareness of implications of overweight and obesity.

7. Work with health care providers to develop a mechanism for referrals to physical activity and nutrition programs for individuals diagnosed as overweight and obese.

8. Develop database for objective collection of height and weight measurements for school-aged youth.

9. Work with partners and community groups to develop social marketing campaigns to increase awareness of implications of overweight and obesity in youth.

10. Develop infrastructure to support local programs to support physical activity outlets in communities, particularly in areas not linked or do not have sidewalks or parks readily available.

11. Work with community partners to promote the development of programs for youth that are diagnosed as obese.

Strategy 2: Increase the appropriate use of medications by patients to control cardiovascular disease risk factors such as high blood pressure, high blood cholesterol, and diabetes.

Activities:

1. Work with the SC Medical Association, Medicaid, pharmaceutical companies and other providers to simplify the application process for prescription medication assistance for low-income populations.

2. Develop culturally appropriate social marketing messages to encourage patients to request generic medications when appropriate.

3. Develop social marketing campaign to encourage the importance of using medication(s) as prescribed.

Objective 2: Health care system will provide means to treat cardiovascular disease risk factors.

Outcome 1: By 2007, the percentages of health care providers promoting the implementation of disease management through Community and Rural Health Centers will be increased.

Strategy 1: Expand and build capacity of health care providers that implement cardiovascular disease models.

Activities:

1. Offer continuing education for health care professionals.

2. Work with the American Heart Association on their *Get with the Guidelines* initiative.

3. Promote the development of self-management classes for patients being treated for CVD risk factors that focus on multiple risk factors, rather than a single risk factor.

4. Promote integration of clinical guidelines into routine practice.

5. Increase provider counseling for physical activity, based on current recommendations for counseling.

6. Develop cooperative agreements among providers to develop a chronic disease registry.

7. Performance feedback to patients and providers participating in programs through the Quality Improvement Organization (SC PRO), Hypertension Initiative of SC (Hypertension Specialist Certification), and/or Community Health Center sites.

8. Reminder systems for both patients and care team.

9. Promote the incorporation of multidisciplinary teams of health professionals.

10. Develop Geographic Information Systems to demonstrate availability of health care providers and services.

11. Screenings will be provided for youth of parents with CVD risk factors and/or CVD.

Strategy 2: Support and expand diverse partnerships to increase the number of health care payors that support cardiovascular disease prevention programs and models.

Activities:

1. Develop improved health care plans to be distributed to providers and employers.

2. Promote the use of electronic information management such as the software available (public domain) through the Chronic Disease Collaborative from the Bureau of Primary Health Care.

3. Performance feedback to patients and providers.

4. Reminder systems for both patients and care teams.

5. Promote the incorporation of multidisciplinary teams of health professionals.

6. Develop both clinical and non-clinical networks for referral to community resources.

7. Reimbursement for routine screenings will be provided for youth of parents with CVD risk factors and/or CVD.

8. Work with the SC Medical Association, Medicaid, and pharmaceutical companies to simplify the application process for prescription medication assistance for low-income populations.

Outcome 2: By 2007, the percentage of third party payors that reimburse for risk factor reduction efforts will be increased.

Strategy 1: Support and expand diverse partnerships to establish and implement a "model" benefits package among health insurers that incorporates coverage for screenings, counseling, and pharmaceutical support for the treatment of CVD risk factors.

Activities:

1. Compile cost analysis data for use by both health insurers and employers.

2. Develop "model" benefits plans for health insurers.

3. Develop a "purchasing" guide on benefits for employers.

4. Work with employers to promote the availability of CVD risk factor coverage/benefits with their employees.

Objective 3: Public policies will support early and aggressive treatment of cardiovascular disease risk factors.

Outcome 1: By 2007, the number of public policies that are supportive of early and aggressive treatment of cardiovascular disease risk factors will be increased.

Strategy 1: Support and expand diverse partnerships to educate legislators on the benefits of early and aggressive treatment of cardiovascular disease risk factors.

Activities:

1. Compile per capita expenditures for cardiovascular disease risk factors.

2. Develop cost-benefit analysis for early and aggressive treatment of cardiovascular disease risk factors.

Strategy 2: Support and expand partnerships to identify a common health policy agenda.

Activities:

1. Identify and advocate for the development of public policies that need to be implemented that support early and aggressive treatment of cardiovascular disease risk factors.

2. Develop partnerships to advocate for and support implementation of policies for early and aggressive treatment of cardiovascular disease risk factors.

Strategy 3: Promote the adoption of health care plans provided by employers that cover preventive services.

Activities:

1. Provide estimates to employers on the cost of adding the services recommended by the US Preventive Services Task Force (for asymptomatic individuals with no known risk factors) to private health insurance programs.

2. Work with SC Primary Health Care Association, as an example of an umbrella organization, to develop discount-buying plans allowing patients of community health centers to purchase medications in volume.

GOAL 4 Promote early and aggressive treatment of cardiovascular disease among all South Carolinians with a focus on addressing disparate populations.

Objective 1: South Carolinians will recognize the signs and symptoms of cardiovascular disease and seek treatment.

Outcome 1: By 2007, the percentage of adults in South Carolina who are aware of the early warning symptoms and signs of heart attack and stroke will be increased.

Strategy 1: Coordinate efforts to help South Carolinians recognize the signs and symptoms of a heart attack or stroke.

Activities:

1. Work with the American Heart Association to support *Operation Heartbeat* and *Operation Stroke* programs in targeted areas.

2. Create and disseminate public service announcements (PSA's) about the signs and symptoms of a heart attack and stroke and action to take (call 911 and begin CPR).

3. Develop and implement a broad-based communications plan for public awareness.

4. Educate women on the signs and symptoms of heart attack and stroke for women.

5. Educate diabetics and persons with hypertension on the signs and symptoms of a heart attack and stroke.

Outcome 2: By 2007, the percentage of adults in South Carolina who are aware of the importance of accessing rapid emergency care for heart attack and stroke by calling 911 will be increased.

Strategy 1: Coordinate efforts to help South Carolinians recognize the importance of calling 911.

Activities:

1. Work with the American Heart Association and American Stroke Association to support *Operation Heartbeat* and *Operation Stroke* in targeted areas.

2. Create and disseminate public service announcements (PSA's) about the importance of calling 911 as it relates to heart attacks and strokes.

3. Communication efforts to be culturally appropriate for intended audience(s).

4. Develop and implement a broad-based communications plan for public awareness.

Objective 2: South Carolinians will actively and cooperatively participate in disease management.

Outcome 1: By 2007, the percentage of South Carolinians who participate in managing their disease will be increased (BCBS data).

Strategy 1: Encourage the development of disease management programs to empower the individual to better manage the disease process.

Activities:

1. Educate South Carolinians on the importance of obtaining appropriate cardiovascular disease treatment.

2. Increase awareness of disease management programs.

3. Ensure medical offices, physicians and hospitals refer patients for enrollment in disease management programs.

4. Develop measurement process for disease management treatment and enrollment in programs.

Strategy 2: Encourage participation in certified cardiac rehabilitation programs as defined by the National Association for Cardiopulmonary Rehabilitation.

Activities:

1. Increase awareness of cardiac rehabilitation programs and services available in South Carolina.

2. Promote and provide links to diverse community support groups.

3. Advocate for policy changes to encourage the practice of spouses and other family members of heart attack and stoke survivors receiving CPR training.

4. Identify and disseminate information on resources for appropriate treatment.

5. Advocate for policy changes that allow family members and patients to work with nutrition consultants to improve heart healthy dietary intake.

6. Educate the public on management skills and techniques for stress reduction.

Strategy 3: Encourage patients to use medication(s) as prescribed.

Activities:

1. Create culturally appropriate awareness campaign for public to recognize the benefits of taking one aspirin a day as a preventative measure.

2. Patient friendly and culturally appropriate guidelines developed to proper usage of medications.

Strategy 4: Increase awareness of expected standards of care.

Activities:

1. Develop expected quality of care standards for public domain/public information consumption to compare with recommendations and services prescribed by providers.

Objective 3: Health care system will provide the opportunity for quality care based on current scientific evidence to achieve the desired cardiovascular health outcome for South Carolinians.

Outcome 1: By 2007, increase the number of providers who follow evidence-based, credible established guidelines for cardiovascular health.

Strategy 1: Provide current treatment guidelines to health care providers and organizations.

Activities:

1. Educate health care providers on the current treatment guidelines.
2. Offer continuing education for health care professionals.
3. Work with the American Heart Association on their Acute Stroke Treatment Initiative.
4. Encourage third party payors to distribute and recommend appropriate set of nationally accepted clinical guidelines.
5. Advocate for the usage of nationally accepted clinical guidelines.

Outcome 2: By 2007, support and build the capacity of providers who utilize established disease care models.

Strategy 1: Develop awareness of cardiovascular disease management models.

Activities:

1. Conduct assessment of available cardiovascular disease management modules and practices.
2. Provide current cardiovascular disease management modules for providers use.

3. Develop expected quality of care standards for public domain/public information consumption for diverse audiences to compare with recommendations and services prescribed by providers.

Strategy 2: Encourage third party payors to promote the importance of disease management models.

Outcome 3: By 2007, increase and assure the number and quality of emergency response services that are accessible throughout South Carolina, particularly in rural and underserved areas.

Strategy 1: The availability of EMS system providers/contractors' sites will be increased within an adequate geographic distribution throughout the state.

Activities:

1. Conduct assessment of current number and location for EMS provider/ contractor services.

2. Measure the capacity (by region served) of each EMS provider/contractor.

3. Share findings with partners, providers, and other audiences as needed to advocate for the need of coverage of services.

4. Conduct measurement of internal capacity for care to include knowledge of EMS staff.

5. Advocate for and support the development of standards for education, training, equipment (AED's), and medications for usage on EMS.

Objective 4: Communities will work in partnership to address opportunities for quality health care outcomes.

Outcome 1: By 2007, build supportive environments for the appropriate promotion of heart health and management of CVD.

Strategy 1: Support and expand diverse partnerships to promote healthier communities through the early and aggressive treatment of CVD.

Activities:

1. Recruit providers and other health care providers for services.

2. Recruit minority health care providers to help provide services to disparate populations.

3. Recruit community groups to advocate for additional providers.

4. Work with community groups, schools, and worksites to facilitate opportunities for obtaining health care services.

Strategy 2: Utilize social marketing methods to promote healthier communities through the early and aggressive treatment of CVD.

Activities:

1. Use culturally appropriate messages when promoting CVH.

2. Create public awareness campaign to disseminate necessary messages to various audiences.

3. Develop and implement outlets appropriate to the intended audience for promotion and advocacy efforts to create change regarding CVH.

Objective 5: Public policies will support provision of and access to early and aggressive treatment of cardiovascular disease.

Outcome 1: By 2007, the number of public policies that support the provision of and access to early and aggressive treatment of cardiovascular disease will be increased (Baseline measure to be developed).

Strategy 1: Support and expand diverse partnerships to build on existing collaborations to utilize a heart healthy policy agenda.

Activities:

1. Identify and advocate for the development of public policies that need to be implemented that support early and aggressive treatment of cardiovascular disease.

2. Develop diverse partnerships to advocate for and support implementation of policies for early and aggressive treatment of cardiovascular disease.

3. Promote the development of cardiac rehabilitation teams.

4. Promote development of referral networks between these in-patient teams and out-patient cardiac rehab services to provide an adequate geographic distribution of services.

5. Develop data-sharing agreements (with no personal or organizational identifiers) between the state health department epidemiology group and SC health care providers/organizations regarding the prevalence of CVD risk factors (goal 3) and CVD/ CVD treatment (goal 4). BRFSS is based on self-reported data.

Strategy 2: Support and expand diverse partnerships to raise awareness among legislators on the benefits of early and aggressive treatment of cardiovascular disease.

Activities:

1. Compile per capita expenditures for cardiovascular disease.

2. Develop cost-benefit analysis for early and aggressive treatment of cardiovascular disease.

Strategy 3: Develop and promote legislation for health insurers/HMOs to provide coverage for "minimal standards of care" for the treatment of CVD, similar to the legislation effective January 2000 for the care of diabetes in SC.

Activities:

1. Use the diabetes legislation of January 2000 as a model for future cardiovascular health legislation.

2. Compile per capita expenditures for cardiovascular disease.

3. Develop and distribute cost-benefit analysis for early and aggressive treatment of cardiovascular disease.

Strategy 4: Advocate for policies that support enhanced response to cardiovascular emergencies.

Activities:

1. Work with organizations and associations to provide data for the advocation of technological enhancements to handle emergency calls placed from cell phones, certified Emergency Medical Dispatchers.

2. Require that AED (Automatic External Defibrillators) placement and training for all public safety units that perform CPR and First Aid, and public access to Defibrillation (PAD) programs.

Objective 6: Hospitalizations and deaths due to cardiovascular disease among at risk minority populations will be reduced.

Outcome 1: By 2007, the opportunity for at-risk minorities targeted for educational efforts will be increased to reduce the health disparate gap for health outcomes related to heart attacks and stroke.

Strategy 1: Support and expand partnerships with minority focused organizations to coordinate culturally appropriate efforts to raise awareness among at risk minorities, particularly African Americans, for the signs and symptoms for heart attacks and stroke.

Activities:

1. Develop culturally appropriate approaches for education on medication usage paying close attention to the messenger.

2. Utilize a variety of persons (lay persons, parish nurses, social workers, and counselors) to help follow-up with patients about medication use.

3. Develop and provide training to health care providers about discussing health issues with persons of different cultures.

4. Work with Medicare, Medicaid and third party payors to provide more affordable mediation programs.

5. Work with health care providers and pharmacists to write instructions for medication usage in additional languages when needed.

6. Develop and implement social marketing materials and campaign using culturally appropriate messages to encourage and promote medication(s) use as prescribed.

Strategy 2: Support and expand partnerships with minority-focused organizations to target at risk minorities to see a doctor on a regular basis.

Activities:

1. Identify and address barriers for access to care on a regular basis.

2. Promote and encourage visits to health care providers and health clinics.

3. Encourage health care providers to provide follow-up care and referrals for at risk minority patients.

4. Develop and implement social marketing materials and campaigns using culturally appropriate message to encourage and promote the need for regular medical visits and examinations.

Healthy People 2010 Objectives For Heart Disease

12-1. Reduce coronary heart disease deaths.

Target: 166 deaths per 100,000 population.

Baseline: 208 coronary heart disease deaths per 100,000 population in 1998 (age adjusted to the year 2000 standard population).

Target setting method: 20 percent improvement.

Data source: National Vital Statistics System (NVSS), CDC, NCHS.

TOTAL POPULATION, 1998	Coronary Heart Disease Deaths Rate per 100,000
TOTAL	208
Race and Ethnicity	
American Indian or Alaska Native	126
Asian or Pacific Islander	123
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African-American	252
White	206
Hispanic or Latino	145
Not Hispanic or Latino	211
Black or African-American	257
White	208
Gender	
Female	165
Male	265
Education Level (aged 25 to 64 years)	
Less than high school	96
High school graduate	80
At least some college	38
Disability Status	
Persons with disabilities	DNC
Persons without disabilities	DNC

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

12-2. (Developmental) Increase the proportion of adults aged 20 years and older who are aware of the early warning symptoms and signs of a heart attack and the importance of accessing rapid emergency care by calling 911.

Potential data source: National Health Interview Survey (NHIS), CDC, NCHS.

12-3. (Developmental) Increase the proportion of eligible patients with heart attacks who receive artery-opening therapy within an hour of symptom onset.

Potential data source: National Registry of Myocardial Infarction, National Acute Myocardial Infarction Project, HCFA.

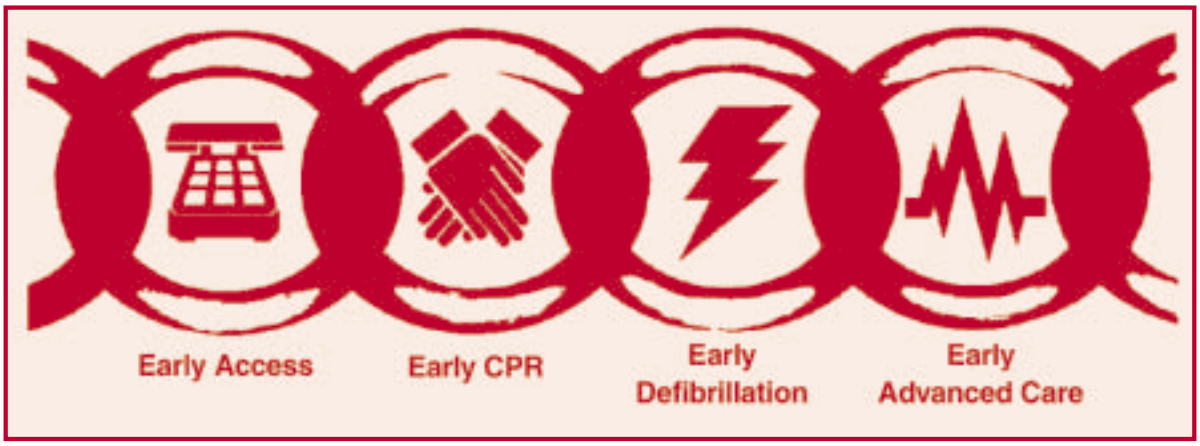
12-4. (Developmental) Increase the proportion of adults aged 20 years and older who call 911 and administer cardiopulmonary resuscitation (CPR) when they witness an out-of-hospital cardiac arrest.

Potential data source: National Health Interview Survey (NHIS), CDC, NCHS.

12-5. (Developmental) Increase the proportion of eligible persons with witnessed out-of-hospital cardiac arrest who receive their first therapeutic electrical shock within 6 minutes after collapse recognition.

Potential data source: Medical Expenditure Panel Survey (MEPS), AHRQ.

BECOME A LINK IN THE CHAIN OF SURVIVAL



12-6. Reduce hospitalizations of older adults with congestive heart failure as the principal diagnosis.

Target and baseline:

Objective	Reduction in Hospitalizations Older Adults with Congestive Heart Failure as the Principle Diagnosis	1997 Baseline	2010 Target
		Per 1,000 Population	
12-16a.	Adults aged 65 to 74 years	13.2	6.5
12-16b.	Adults aged 75 to 84 years	26.7	13.5
12-16c.	Adults aged 85 years and older	52.7	26.5

Target setting method: Better than the best.

Data source: National Hospital Discharge Survey (NHDS), CDC, NCHS.

ADULTS WITH CONGESTIVE HEART FAILURE HOSPITALIZATIONS	12-6a. Aged 65 to 74 Years	12-6b. Aged 75 to 84 Years	12-6c. Aged 85 Years and Older
	Rate per 100,000	Rate per 100,000	Rate per 100,000
TOTAL	13.2	26.7	52.7
Race and Ethnicity			
American Indian or Alaska Native	DSU	DSU	DSU
Asian or Pacific Islander	DSU	DSU	DSU
Asian	DNC	DNC	DNC
Native Hawaiian and other Pacific Islander	DNC	DNC	DNC
Black or African-American	20.2	21.4	47.0
White	9.9	21.4	41.8
Hispanic or Latino	DSU	DSU	DSU
Not Hispanic or Latino	DSU	DSU	DSU
Black or African-American	DSU	DSU	DSU
White	DSU	DSU	DSU
Gender			
Female	11.5	25.0	50.2
Male	15.3	29.2	58.8
Education Level			
Less than high school	DNC	DNC	DNC
High school graduate	DNC	DNC	DNC
At least some college	DNC	DNC	DNC
Disability Status			
Persons with disabilities	DNC	DNC	DNC
Persons without disabilities	DNC	DNC	DNC

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.

Stroke

12-7. Reduce stroke deaths.

Target: 48 deaths per 100,000 population.

Baseline: 60 deaths from stroke per 100,000 population occurred in 1998 (age adjusted to the year 2000 standard population).

Target setting method: 20 percent improvement.

TOTAL POPULATION, 1998	Stroke Deaths Rate per 100,000
TOTAL	60
Race and Ethnicity	
American Indian or Alaska Native	38
Asian or Pacific Islander	51
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African-American	80
White	58
Hispanic or Latino	39
Not Hispanic or Latino	60
Black or African-American	82
White	58
Gender	
Female	58
Male	60
Education Level (aged 25 to 64 years)	
Less than high school	22
High school graduate	17
At least some college	8
Disability Status	
Persons with disabilities	DNC
Persons without disabilities	DNC

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

Data source: National Vital Statistics System (NVSS), CDC, NCHS.

12-8. (Developmental) Increase the proportion of adults who are aware of the early warning symptoms and signs of a stroke.

Potential data source: National Health Interview Survey (NHIS), CDC, NCHS.

Blood Pressure

12-9. Reduce the proportion of adults with high blood pressure.

Target: 16 percent.

Baseline: 28 percent of adults aged 20 years and older had high blood pressure in 1988–94 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

ADULTS AGED 20 YEARS AND OLDER, 1988–94 (unless noted)	High Blood Pressure
	Percent
TOTAL	28
Race and Ethnicity	
American Indian or Alaska Native	DSU
Asian or Pacific Islander	DSU
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African-American	40
White	27
Hispanic or Latino	DSU
Mexican-American	29
Not Hispanic or Latino	28
Black or African-American	40
White	27
Gender	
Female	26
Male	30
Family Income Level	
Poor	32
Near poor	30
Middle/high income	27
Disability Status	
Persons with disabilities	32 (1991–94)
Persons without disabilities	27 (1991–94)
Select Populations	
Persons with diabetes	DNA
Persons without diabetes	DNA

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

12-10. Increase the proportion of adults with high blood pressure whose blood pressure is under control.

Target: 50 percent.

Baseline: 18 percent of adults aged 18 years and older with high blood pressure had it under control in 1988–94
(age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

ADULTS AGED 18 YEARS AND OLDER WITH HIGH BLOOD PRESSURE, 1988–94 (unless noted)	Blood Pressure Controlled
	Percent
TOTAL	18
Race and Ethnicity	
American Indian or Alaska Native	DSU
Asian or Pacific Islander	DSU
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African-American	19
White	18
Hispanic or Latino	DSU
Mexican-American	13
Not Hispanic or Latino	DNA
Black or African-American	19
White	18
Gender	
Female	28
Male	13
Family Income Level	
Poor	25
Near poor	20
Middle/high income	16
Disability Status	
Persons with disabilities	32 (1991–94)
Persons without disabilities	27 (1991–94)
Select Populations	
Persons with diabetes	DNA
Persons without diabetes	DNA

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

12-11. Increase the proportion of adults with high blood pressure who are taking action (for example, losing weight, increasing physical activity, or reducing sodium intake) to help control their blood pressure.

Target: 95 percent.

Baseline: 82 percent of adults aged 18 years and older with high blood pressure were taking action to control it in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health Interview Survey (NHIS), CDC, NCHS.

ADULTS AGED 18 YEARS AND OLDER WITH HIGH BLOOD PRESSURE, 1988–94 (unless noted)	Taking Action To Control Blood Pressure
	Percent
TOTAL	82
Race and Ethnicity	
American Indian or Alaska Native	DSU
Asian or Pacific Islander	76
Asian	75
Native Hawaiian and other Pacific Islander	DSU
Black or African-American	86
White	80
Hispanic or Latino	74
Not Hispanic or Latino	83
Black or African-American	87
White	81
Gender	
Female	83
Male	80
Family Income Level	
Poor	80
Near poor	79
Middle/high income	81
Disability Status	
Persons with disabilities	84 (1994)
Persons without disabilities	76 (1994)
Geographic Variation	
Urban	83
Rural	80
Select Populations	
Persons with diabetes	DNA
Persons without diabetes	DNA

DNA = Data have not been analyzed.

DNC = Data are not collected.

DSU = Data are statistically unreliable.

Note: Age adjusted to the year 2000 standard population.

12-12. Increase the proportion of adults who have had their blood pressure measured within the preceding 2 years and can state whether their blood pressure was normal or high.

Target: 95 percent.

Baseline: 90 percent of adults aged 18 years and older had their blood pressure measured in the past 2 years and could state whether it was normal or high in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health Interview Survey (NHIS), CDC, NCHS.

ADULTS AGED 18 YEARS AND OLDER, 1988 (unless noted)	Had Blood Pressure Measured in Past 2 Years and Knew Whether It Was Normal or High
	Percent
TOTAL	**90**
Race and Ethnicity	
American Indian or Alaska Native	**89**
Asian or Pacific Islander	**86**
Asian	**86**
Native Hawaiian and other Pacific Islander	**86**
Black or African-American	**92**
White	**90**
Hispanic or Latino	**84**
Not Hispanic or Latino	**91**
Black or African-American	**92**
White	**91**
Gender	
Female	**92**
Male	**87**
Education Level (aged 25 years and older)	
Less than high school	**84**
High school graduate	**90**
At least some college	**93**
Disability Status	
Persons with activity limitations	**90 (1994)**
Persons without activity limitations	**84 (1994)**

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

Cholesterol

12-13. Reduce the mean total blood cholesterol levels among adults.

Target: 199 mg/dL (mean).

Baseline: 206 mg/dL was the mean total blood cholesterol level for adults aged 20 years and older in 1988–94 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

ADULTS AGED 20 YEARS AND OLDER, 1988–94 (unless noted)	Mean Cholesterol Level
	mg/dL
TOTAL	206
Race and Ethnicity	
American Indian or Alaska Native	DSU
Asian or Pacific Islander	DSU
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African-American	204
White	206
Hispanic or Latino	DSU
Mexican-American	205
Not Hispanic or Latino	206
Black or African-American	204
White	206
Gender	
Female	207
Male	204
Family Income Level	
Poor	205
Near poor	204
Middle/high income	206
Disability Status	
Persons with disabilities	208 (1991–94)
Persons without disabilities	204 (1991–94)

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

12-14. Reduce the proportion of adults with high total blood cholesterol levels.

Target: 17 percent.

Baseline: 21 percent of adults aged 20 years and older had total blood cholesterol levels of 240 mg/dL or greater in 1988–94 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

ADULTS AGED 20 YEARS AND OLDER, 1988–94 (unless noted)	Total Blood Cholesterol Level of 240 mg/dL or Greater
	mg/dL
TOTAL	21
Race and Ethnicity	
American Indian or Alaska Native	DSU
Asian or Pacific Islander	DSU
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African-American	19
White	21
Hispanic or Latino	DNC
Mexican-American	18
Not Hispanic or Latino	DNA
Black or African-American	19
White	21
Gender	
Female	22
Male	19
Education Level	
Less than high school	22
High school graduate	22
At least some college	19
Disability Status	
Persons with disabilities	24 (1991–94)
Persons without disabilities	19 (1991–94)

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

12-15. Increase the proportion of adults who have had their blood cholesterol checked within the preceding 5 years.

Target: 80 percent.

Baseline: 67 percent of adults aged 18 years and older had their blood cholesterol checked within the preceding 5 years in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health Interview Survey (NHIS), CDC, NCHS.

ADULTS AGED 18 YEARS AND OLDER, 1988 (unless noted)	Blood Cholesterol Checked in Past 5 Years
	Percent
TOTAL	67
Race and Ethnicity	
American Indian or Alaska Native	58
Asian or Pacific Islander	68
Asian	69
Native Hawaiian and other Pacific Islander	65
Black or African-American	67
White	67
Hispanic or Latino	59
Not Hispanic or Latino	68
Black or African-American	67
White	70
Gender	
Female	70
Male	64
Education Level (aged 25 years and older)	
Less than high school	58
High school graduate	69
At least some college	78
Disability Status	
Persons with activity limitations	72 (1993)
Persons without activity limitations	66 (1993)
Geographic Variation	
Urban	68
Rural	63

DNA = Data have not been analyzed.

DNC = Data are not collected.

DSU = Data are statistically unreliable.

Note: Age adjusted to the year 2000 standard population.

12-16. (Developmental) Increase the proportion of persons with coronary heart disease who have their LDL-cholesterol level treated to a goal of less than or equal to 100 mg/dL.

Potential data source: National Health and Nutrition Examination Survey (NHANES), CDC, NCHS.

APPENDIX C

What are policy and environmental changes?

In recent years, many organizations and state health departments have initiated programs that focus on community-based programs designed to change policies or environments. More strategies that focus on policy and environmental changes in the areas of nutrition and physical activity are needed. These strategies are effective because they can benefit more people within the exposed environment as opposed to focusing on the individual in hopes of creating change.

Population and community-wide changes can be created through passive approaches by way of policy and environmental changes. The impact of policy and environmental approaches as they influence the whole culture, are less costly and are more enduring. Physical inactivity is a complex habit that has proved difficult to modify by using individually focused approaches to behavior change. These findings help to reinforce the need for population-based, community-wide approaches.

Policy and environmental changes enable communities to support healthy behaviors. Examples of policy and environmental changes include: opening school gyms and other facilities after hours for community use, promoting low-fat milk campaigns in schools, establishing community gardens or farmers' markets, and establishing walking trails. Walking trails, specifically, was determined to be a relatively low-cost, feasible intervention. It might help increase walking by reducing the barrier of accessibility to facilities and by becoming a permanent fixture in the community. Success has been noted in studies conducted with walking trails carried out in the Bootheel and Ozark areas of Missouri. Researchers noted extensive success in increasing the level of physical activity among populations at greatest risk for inactivity especially women and persons in lower socioeconomic status.

Methods of addressing policy and environmental approaches to physical activity are the focus in "Influencing Policy to Promote Physical Activity." (1999) Steeples, et al, discuss how this approach to physical activity is more likely to have a greater impact than individual approaches. This article presents findings from Pittsburgh Active Living Project, as it sought opportunities to change or create policies that encouraged physical activity and better health for the low income and multi-ethnic residents of Pittsburgh, California. Lessons learned from this project include the importance of seeking initial public support, inclusion of stakeholders in the policy process, and conducting research in advance.

Policy and environmental changes might have a higher degree of success in changing and sustaining healthy behaviors in the African-American community. While targeted health interventions require support of outside resources, careful introduction into the community, and continued vigilance, policy and environmental approaches are longer lasting and can influence entire cultures, thereby creating an even greater impact. The environment must be encouraging and supportive of the change in order to be successful, otherwise, victory in achieving community goals is limited.

Policy change logically follows shifts in community values that result from other interventions. Policy change has the potential to impact a greater number of people and is more cost effective. In reality, nearly all successful educational programs use strategies of influence that involve some manipulation as well as education. Communities

cannot be expected to make changes in their lifestyles while living in an environment that is not conducive and supportive of that change. Therefore, implementing other efforts directed towards the environment in a particular community, in addition to the targeted health intervention, will likely bring about a better result and likely be sustained than simply applying the intervention alone.

Assets- listing of those programs/interventions already in existence; to include national, state and local activities

Key informant interviews have been conducted with identified parties who are knowledgeable about environmental and policy change, to gain better insights into the planning process, barriers, current resources and training needed in the CVD Plan development process. The interviews were loosely structured, and relied on a developed list of issues to be discussed prior to the calls. The interviews were conducted as a general conversation that allowed a free flow of ideas and information. Questions were framed spontaneously and interviewers probed for information when needed.

These interviews were conducted to address how existing programs across the state could organize partners needed to discuss prevention. These interviews also served to address the best ways to access additional resources in communities and increase the participation of partners. Finally, the interviews allowed the program to determine processes that will be used when thinking about developing and providing technical assistance and education to local health departments and community partners. The object was to gain information about opportunities, barriers and resources to address CVD prevention.

Some of the key informants have become formal partners with whom Memorandum of Agreements are signed, acknowledging and defining our responsibilities to each other.

Approaches

The Community Approach:

Inherent in the development of partnerships was an assessment of the current efforts of addressing CVD. Interviews were conducted with potential partners knowledgeable about environmental and policy change to gain insight about resources and training needs, the planning process, special population, identified barriers, and other possible partners. The interviews were conducted informally and relied on a developed list of issues discussed prior to the telephone calls. Issues addressed included how existing programs across the state could organize partners needed to discuss prevention, most effective ways to access additional resources in communities and increase participation of partners; processes that can be used to direct technical assistance and education towards local health departments and community partners. The end result was to gain information about opportunities, barriers, and resources to address CVD prevention.

Successful approaches to improve health in a community focus on the development of “community-based” initiatives, those that are designed and lead by the community, rather than “community-placed” initiatives, those that are designed by outside agencies and placed in communities. Community-based initiatives empower communities to participate in all levels of decision-making (planning, funding, implementing, and evaluating) of an initiative. The expertise within the local community will guide the design of the effort to meet the unique needs within the community. Furthermore, it is easier to solicit local support for the program, as it will be branded as a local product. Many effectual partnerships result from building trust within the community. Community pride will also come into play as a major determinant in the program’s success. These factors are crucial in maintaining communication and collaboration for expanding the initial effort and in implementing future programs.

The Socio-Ecological Model:

Our multi-level approach addresses individual, interpersonal, organizational, community, and public policy levels. While past efforts have focused on the individual level and progressed outward, the new method starts at the public policy level and progresses inward. This allows for the rational discussion of all aspects of a program in that its impact will be felt by all levels. While our emphasis is on at the public policy level, there are many efforts being designed to foster behavior change at the individual level, which have been quite successful. Our experience is that the ubiquitous nature of CVD warrants a more encompassing plan of action.

At the individual level, the focus is on the knowledge, attitude, behavior, and skills of each individual. Face-to-face counseling and behavior change focused media are examples of targeted programs for changing individual behavior.

At the interpersonal level, the focus is expanded to include the family, friends, social networks, peer groups, and work environment. Any effort to foster change at this level is directed at social norms and influences that can affect behavior. Establishing community and neighborhood walking groups are examples of programs for promoting behavior change.

At the organizational level, the focus becomes institutional in which the individual and/or family is a member or participant. These include churches, worksites, schools, hospitals, senior citizens centers, and other facilities where people gather. Programs to foster change at this level are directed at group norms that will impact on health behavior. Putting in an exercise area or walking trail at work, establishing a smoke-free work zone, and providing healthy cafeteria meals are programs that can subtly encourage healthy habits.

At the community level, the focus becomes cultural and societal as the practices, customs, mores, and values of a group are factors taken in consideration for changing behavior. These include community groups and organizations, mass media, and community social structures. Programs for targeting change are directed at community coalitions, power and influence structures, and the media. Promoting positive health behavior can be encouraged through public awareness campaigns in the media, editorials in the local newspaper, and the building of advocacy coalitions.

At the public policy level, the focus is on national, state, and local laws and policies. The targets for intervention include policy development, analysis, monitoring and advocacy. Behavior change can become mandated and enforceable through the legal system. Citizen advocacy for creating tobacco and/or drug-free schools and ordinances creating bike lanes on roads and walking trails are now acceptable policy changes that promote healthy behavior.

Despite the universal availability of information on physical fitness, healthy eating, and the dangers of smoking, CVD remains the leading cause of death and levels of obesity, overweight, and sedentary lifestyle continue to increase. Success of efforts to encourage physical fitness and healthy diet is limited. Greater strides can be made at the community and public policy level where programs can change social and cultural norms in support of more healthy lifestyles and public policies can restrict or even eliminate bad and/or destructive habits. While some programs targeted at individuals have had an impact on increasing awareness and education about the risk factors associated with CVD, most have had no success with the social factors that can more effectively reduce CVD risk.